The
ILLINOIS
Medical Journal
Official Journal of The Illinois State Medical Society

OCTOBER, 1956
VOL. 110 NO. 4

Psychiatric Factors in Therapy of Duodenal Ulcer

S. H. KRAINES, M.D., CHICAGO

AMONG the several factors influencing duodenal ulcer, psychiatric disturbances play a major role in etiology, in exacerabations, and in therapy.

The immediate factor in the development of peptic ulcer is the action on the stomach mucosa of pepsin-hydrochloric acid. Trauma, infection, burns, fatigue, terminal illness, and certain drugs such as ACTH and cortisone are some of the precipitating physical causes. Emotional tension is a major predetermining factor.

Cushing[1] reported a high incidence of peptic ulcers after intracranial operations. Tumors of the midbrain and diencephalon frequently are associated with gastric or duodenal ulcers. Experimental studies[2,3] have shown that stimulation of the hypothalamus, especially about the tuber cinerium, results in the formation of gastric and duodenal ulcers. Cushing postulates that influences arising in the parasympathetic center in the hypothalamus and conveyed along the vagus nerve are responsible for changes in the gastric mucosa which lead to the development of ulcer.

The mechanism by which emotional tension facilitates the production of a duodenal ulcer involves the hypothalamus and, through secondary stimulation, the pituitary and the adrenal cortex. These neurogenic and hormonal mechanisms are probably involved in the hyperchlorhydria and vasospasm which so often accompanies this illness.

As a result of these neurogenic factors, including those resulting from the action of emotion, there are local gastric changes in motility, in the quantity and quality of gastric secretion, and in vasomotor spasm. We are concerned in this paper not with the local changes but with the central cause; and we regard the central cause not as the hypothalamic but the emotional disturbances.

Strong stimulation of the hypothalamus usually results in a "mass discharge." Intense emotion can act as such stimulation and will produce many symptoms of disturbed autonomic activity such as spastic colitis, tachycardia, muscle tension and headaches. These disturbances are part of the illness of the entire autonomic nervous system, of which peptic ulcer is a specific manifestation.

Vagotomy for peptic ulcer is of value, therefore, by blocking the excessive bombardment of nervous impluses on the gastric mucosa. Valuable as is this procedure, it does not eliminate the role of the hormones (especially from the adrenal cortex) in the formation of peptic ulcer. These hormonal factors are, in large measure,

Presented at Chicago Chapter, American College of Surgeons, January 19, 1956.

also secondary to hypothalamic-pituitary disturbance.

The psychic stress that precipitates the formation of a duodenal ulcer may be acute or chronic. The factor of acute stress is seen in such statistics as came out of London during the "blitz."[4] At that time, about three times as many patients were admitted to London hospitals with perforations as in the preceding and succeeding years.

In most instances, it is chronic psychic stress that results in ulcer formation. The common factor of the many forms of such stress is the production of a continuous high level of tension which usually is under excessive personality control and has minimal outlets or release mechanisms. This high level of tension results in overstimulation of the anterior hypothalamic region (governing the vagal system) and, via the pituitary, excessive stimulation of the adrenal cortex. The resulting vagal and hormonal stress stimulates the formation of the duodenal ulcer.

Attempts have been made to describe an ulcer personality; recent studies[5] have shown that such personality groups do not exist. Nor are there specific psychic stresses that are solely ulcer producing. The young business executive is commonly and rightly described as being a good candidate for a ulcer. The great demands made upon such a person, the need for constant self-control in the face of frustrations, the high sense of responsibility - all act to create a high level of tension. But it is not only the business man that is the victim; men of any profession, women, and even chidren have this illness. Women who have ulcers usually give a history of serious domestic difficulties, of sexual frustration, of other emotional conflicts that are the lot of women in society today. Children may develop ulcer; commonly there is excessive friction between the parents, a feeling of being unwanted, or a sense of intense inferiority.

However varied the psychic stresses may be, one element is surprisingly common in patients who develop ulcers, and that is their inability to relieve tension, their over-control of emotions.

Although duodenal ulcers are about four to five times as frequent in men as in women it was not always so.[6] In the 1890's young women were common victims of this illness. Young women of that era were reared in a rigid social code. It was unladylike to express anger, jealousy, or resentment. Women had to show sweetness, pleasantness, and gentleness and all they could do under stress was to break down in tears, to giggle, or to faint. Yet they were driven by the need to get married to obtain a man—for the fate of the unmarried woman in those days was not what it is today. Hence her ulcers. There was too much tension and too little outlet.

It is not only stress that is importanat in the etiology of ulcers but the personality. Two persons under the same stress will react differently. Often, in psychotherapy, stress cannot be changed; it is possible, however, to stabilize the personality. Of the many personality elements that predispose to autonomic nervous system tension (and ulcer) some of the most common are: a sense of frustration, intense feelings of guilt, fear and repressed anger, chronic dissatisfaction and hostility, a strong feeling of insecurity, an excessive sense of responsibility, and driving ambition.

These personality traits become automatic and habitual patterns of reaction, even in the absense of stress; when stress is added, physical symptoms result.

Psychiatric therapy[7] for ulcer rarely should be used alone. Practically always it should be associated with medical care of the specific symptoms; sometimes, only surgical procedures are of therapeutic value. The overall goal of psychiatric therapy in these patients is to reduce emotional tension. The principles include the amelioration of stress and the modification of unhealthy personality traits. The techniques include ventilation, mental hygiene retraining, and deep personality analysis.

To elicit the patient's co-operation in changing his emotional patterns it is essential that he understand their relationship to his physical symptoms—in this instance, to his ulcer. General instructions to the patient to relax or not to worry rarely are of value; most persons wish to be able to do so, but few can do so spontaneously. To help the patient, one must know specifically what his difficulties are. The technique of ventilation consists of permitting the patient to speak freely, not so much of his physical ailments as of his problems and concerns. There is great value to the patient in getting things off his chest, in finding a sympathetic and understanding ear. As the patient talks, the physician

attempts to sort out two sets of facts: The nature and objective validity of the stresses, and the kinds of general habit patterns of reaction that exist.

After the patient has talked himself out, he is questioned about stresses in terms of his work, his mate, his financial situation, sexual problems, and any other general situation of conflict. In order to have the patient deal with these problems specifically, the physician should make a specific list of the stated concerns of the patient. As the patient describes his concerns, the physician again outlines in his own mind the existence of the personality problems, such as are listed above, and he should be aware of how each of these traits operates in terms of the patient's complaints.

The second step in the psychiatric procedure is mental hygiene retraining. If the patient's personality traits (general habit patterns of reaction) can be changed, stresses will no longer be so disturbing. The first procedure along these lines, is to focus the patient's attention on each stress from three different aspects: 1) Defining the problem exactly; 2) deciding on a logical basis the possible solutions; 3) having decided on the solution, he must learn not to review and relive the same problem. It is most important to keep the patient focused on each one of his stresses until he can carry out this three-fold formula. The definition of the problem makes it easier to solve, the decision as to what is to be done removes much of the tension associated with uncertainty, and the training in dismissing a problem, once a decision has been made, prevents constant reverberations of past emotions.

As a rule, it is wise for the physician not to tell the patient what to do about specific problems, for the physician not only leaves himself open to censure should something go wrong, but the solution which he suggests may not be best for the patient. Rather, the physician should encourage the patient to make his own decisions and guide him by questioning. The patient will be better satisfied when he has arrived at his own conclusion. Many stresses that appear insoluble will yield to this Socratic-like method of questioning the patient. Just talking about his stresses crystallizes the problem for the patient and facilitates a solution.

The third step is to venture beyond the specific stress situation and to deal with the basic habit patterns of reaction; these patterns operate automatically in any stress situation and unless these habit patterns can be removed, the patient will continue to be disturbed by even minor pressures. For example, among the more common general patterns of reaction listed above, chronic dissatisfaction and hostility are prominent. During the ventilation period, the physician will have noted how often this attitude (as well as others) appeared, and he will ask the patient how often dissatisfaction and hostility are expressed in other areas. Since few patients see their own emotional responses clearly, it becomes necessary to inquire into their responses in various fields. When a patient comments on some facet in his life which manifests this pattern of chronic dissatisfaction and of hostility, the patient should be made aware how his specific feelings about specific subjects stem from his overall broad general habit pattern of dissatisfaction.

It is helpful to steer the patient's conversation into his relationship with his mate, with his children, with his co-workers; to discuss his views on the achievements of others, as well as his own. As he talks about these specific areas, emphasis should be laid upon the manner in which the general attitude of dissatisfaction operates, on its automaticity, on its pervasiveness. The more avenues the patient can see in which this general attitude operates, the more he will be able to change it.

In each of these instances, the patient is then asked to outline a more ideal pattern for meeting the stress. If he can, in his own words, answer two questions, he will be well on the road toward achieving the therapeutic goal: What his specific attitude should be toward the immediate stress situation about which he is talking; and what his general attitude should be toward similar situations not only in the future, but as he recalls them from the past.

Whenever, in any session, the physician finds the patient reacting according to one of his basic habit patterns, he needs to bring it to the patient's attention. The process of simple repetition often will accomplish what one single erudite discussion will not.

In all of the procedures of changing the basic attitudes of the patient, the physician must al-

ways provide ample encouragement. People are too easily discouraged even from that which they wish most. Fear of consequences is rarely so effective in changing attitudes as is encouragement.

The time spent by the physician in these cases will repay itself in many ways. Not only will there be more lasting results in terms of the ulcer, but the patient will know that he has found not only a physician but a friend. The confidence that the patient has in his physician is one of the cornerstones of therapy.

In many patients, these measures will not suffice. Only by a deep personality analysis can fundamental attitudes be changed. Specialized psychiatric aid is required in these cases. Two other points may be brought up here. Drugs that elevate the mood and relax the patient are of great value, in addition to the antacid and antisecretory medications. Amphetamine, by making the patient feel better, will assist him in changing his attitudes; so will sedatives.

There are a number of patients who suffer from manic depressive depression[7] in whom duodenal ulcers are a depressive equivalent; that is, the primary symptom of this overall depressive mood is ulceration in the stomach. In such instances, electric shock is the psychiatric therapy of choice, and when the depression is alleviated the ulcer disappears.

SUMMARY

Psychic tension can play a role in the formation of duodenal ulcer through neurogenic and hormonal mechanisms. Psychotherapy necessitates determining the exact nature of the psychic stresses, and assisting the patient to adjust to these stresses. Psychotherapy precedes by: determining the underlying personality traits that predispose the patient to stress reactions; and by specific discussions of each of these traits, achieve general alleviation of tension. Such procedures will not only assist in the therapy of an existing duodenal ulcer but will aid in the removal of associated general autonomic nervous system disturbances.

REFERENCES

1. Cushing, H: Peptic Ulcer and the Interrain. The Pituitary Body Hypothalamus, and Parasympathetic Nervous System. Springfield, Ill. Thomas, 1952.
2. Beattie, J.: Relation of Tuber Cinerium to Gastric and Cardiac Functions. Canad. M.A.J. **26**:278, 1932.
3. Keller, A.D.; Hare, W. K.; and D'Amour, M.C.: Ulceration in Digestive Tract Following Experimental Lesions in Brain Stem. Proc. Soc. Exp. Biol. & Med. **30**:772-775, 1933.
4. Ingelfinger, F. J.: The Medical Management of Duodenal Ulcer in the Light of Current Etiologic Concepts. Med. Clin. N.A. **34**:1447, 1950.
5. Roth, H. P.: The Peptic Ulcer Personality. Arch. Int. Med. **96**:32-42. 1955.
6. Mittleman, B. and Wolff, H. G.: Emotions and Gastroduodenal Functions. Psychosom. Med. **4**:5, 1942.
7. Kraines, S. H.: Therapy of the Neuroses and Psychoses, Philadelphia, Lea & Febiger, 1948.

Medical Staff - Board of Trustee Relationship

Foster L. McMillan, M.D., F.A.C.S., Chicago

ALTHOUGH having been recently somewhat mentally traumatized by matters pertaining to Medical Staff-Board of Trustee relationship, I will endeavor to avoid any vindictiveness in my remarks concerning this timely subject. However, I do not believe this session should be devoted only to back-slapping or white-washing of deficiencies influencing the ideal relationship between Staff and Trustees.

The Joint Commission on Accreditation of Hospitals has outlined in general, and somewhat specifically, the responsibilities of the Trustees, the Hospital Director and the Medical Staff, but additional integrated or co-ordinated details of organization, responsibilities and liaison are necessary for the individual needs of each hospital.

The Governing Body—It is recognized that all phases of the conduct of a hospital are the legal and moral responsibility of the Trustees which incurs responsibility to the patient, to the community, and to the sponsoring organization, if any. Even though generally unrecognized as yet, I believe they must also have a responsibility to the Medical Staff as a whole.

The Administrator—The administrator or director of the hospital is the official hospital representative who is directly responsible to the Trustees for the administration and conduct of the hospital within policy limits established by the Board of Trustees. It is his responsibility to provide liaison between the governing body, the medical staff, the nursing staff and other hospital departments and personnel. He, however, should not be responsible for the direction of medical care, teaching or medical research.

The Medical Staff—Since governing bodies are rarely qualified medically, responsibility for the medical functions of the hospital must be delegated to and assumed by the Medical Staff.

President, Medical Board, St. Luke's Hospital Clinical Associate Professor of Surgery, University of Illinois College of Medicine, Chicago, Illinois

The Medical Staff is responsible to the governing body of the hospital for the quality of all medical care rendered, for the ethical standards of practice in the hospital, and for education and educational standards, if an educational program prevails.

How resolutely all these responsibilities are discharged will depend upon the character of the Board of Trustees, the Administrator and the Medical Staff, implemented by an integrated, effective organization.

The primary purpose of any hospital is to provide the best possible medical care of patients. Many hospitals have assumed additional worthy, but necessarily secondary roles such as medical and nursing education, and even clinical research. The ultimate or ideal effectiveness of achieving such purposes requires full intelligent co-operative liaison between the Trustees, Hospital Administrator and Medical Staff.

From my own observation and experience, I would like to point out some of the obstacles to the ideal relationship between the Staff and the Trustees.

One of the most conspicious obstacles to the ideal relationship in many hospitals, is the imposed Trustee-Administrator "iron curtain" or "dictatorial barrier" between them and the Medical Staff. In the last few years, a glimmer of light has come through this curtain when some Boards of Trustees have established, or asked for a Joint Trustee-Administrator-Medical Staff Liaison Committee, or elected one or more qualified, responsible members of the Medical Staff as Trustees, or appointed the President or officers of the Medical Staff as Advisory Trustees. But, too frequently, these appointments have been mere gestures to placate the Medical Staff in their rightful and earnest desire to have a helpful voice in the administration, planning and future development of the hospital, of which they are one of the most important parts. In the

instances in which these efforts lend only lip-service toward collaboration, arbitration and co-operative action, they have been promptly recognized by the Staff as such, and the relationship has deteriorated disasterously for all.

How effectual indeed it would be, for this iron-curtain, frilled only by idle gestures, to be forever discarded, and for it, substituted the development of a realistic co-operative, well-organized team composed of the Board of Trustees, the Hospital Administrator and the Medical Staff.

Each member of the team must accept and effectively discharge it's own responsibilities. Each must respect the responsibilities of the other members of the team, but not to the point where over-lapping responsibility is disregarded, and not to the extent that matters pertaining to the hospital as a whole are not settled by joint conference or co-operative arbitration by official representatives of each. Each part of the team, individually and as a whole, must assume the responsibility and he held accountable for their words as well as actions.

Another frequent barrier to ideal Staff-Trustee relationship is the lack of confidence or trust between any two parts of this potentially effective team. This confidence and trust cannot be established by demand or edict. It must be deserved. It cannot be established overnight. It is developed, inspired, instilled, or built upon a sum total of such things as attitude, diligence, proved ability, intent, honesty, performance, good judgment, integrity, vision and execution of long-term planning, unselfishness, fairness, loyalty and reasonableness. Once deserved and attained, this confidence can be shaken or destroyed by even a minimal incident.

Diffidence is too frequently created by ill-advised or hasty decisions or utterances by the Trustees, Administrator or by members of the Medical Staff. The appointment and tolerance of an incompetent, ineffectual, or tactless Hospital Administrator by the Trustees will cause inestimable damage to Staff-Trustee relationship.

Domination of the Trustees by an inadequate or unqualified Chairman or President or Hospital Administrator, is quickly sensed by the Medical Staff and will surely lead to a deterioration of confidence and morale.

A Medical Staff which has confidence in its Hospital's Board of Trustees and Administrator is usually a Staff with high morale.

Membership on a Board of Trustees should require a high degree of consecration toward community or public service, and to be effective requires much time, effort, influence and sacrifice, not for any financial gain but only for the satisfaction of doing good.

Too often, Trustees qualify only upon the basis of their social standing or their financial status, without consideration of their effective ability, sincere desire, willingness, and effort to be of service to the community.

Often Trustees are influenced into actions, or hasty decisions, without competent counsel and advice from those most experienced in hospital or medical matters, resulting in ineffectual expenditures pertaining to physical plants or hospital departments, partially or wholly, unsuitable for the purpose intended.

Too frequently, Trustees are appointed or elected insufficiently mature in experience or ability to qualify them to establish policies and make decisions influencing or directing the destinies of an institution so important as a hospital. It is a travesty that these men should be put into a position which may seriously influence the very careers of important men dedicated to the best medical care of patients. Being a Trustee of a Hospital is a serious responsibility.

Trite as the statement may be, bricks and mortar do not make a hospital. In the present day economy, it is even more important than formerly, that the physical plant is modern and planned so that it can be operated with maximum efficiency and economy. But, however modern and well managed, the ultimate reputation is dependent upon it's Medical Staff.

In many instances, financial consideration alone, by the Trustees or Hospital Administrator, as to whether all departments or service elements in the Hospital pay their way or evidence a profit, has caused discontinuance or curtailment of important services. While we must all admit that hospitals should be operated consistent with good business principles, it must be recognized that there are many necessary aspects which cannot be handled strictly in this manner. One Hospital Trustee was heard to remark, in discussion of hospital matters, that in his business, if he could not make a profit on any given commodity,

it was discontinued. The hospital care of patients cannot be entirely on this basis any more than we can practice good medicine strictly on this basis.

There are many other obstacles but in all fairness it is pertinent to mention specifically some of the Medical Staff deficiencies which have contributed to strained Medical Staff-Trustee relationships.

Our own medical organizations have set up rules, regulations and standards of medical care. Standards of staff organization and responsibilities have been established as far as major and general requirements are concerned. But the efficacy with which these are consummated are dependent on so many things which are not spelled-out in any set of standards, rules or regulations.

American medical men are a group of the greatest individualists. This worthy characteristic has resulted in the best medical care in the world, but in the ideal operation and management of a hospital, this individualism must be subjugated, curbed or modified by its own Medical Staff organization or autonomy, to the best interests of all.

Most medical staffs require and rightfully deserve a certain degree of autonomy but it never should be to the point where it dominates to the detriment of the entire hospital organization. Its autonomy should be geared toward being a part of a smooth running, integrated, efficient organization. Strict autonomy of the Medical Staff will prove just as impractical as that of the Nursing Department or the School of Nursing or any other Hospital Department. Imagine the futility of attempting to administer or operate a hospital with each major part or group holding itself apart or aloof from the organization as a whole, no matter whether it be the Governing Body, the Administration, Service Departments or Professional Staff. Because of the influence of our inherent individualism, it is often impossible to obtain unanimity of opinion or accord from the Medical Staff. This trait, when combined with a staff organization which is too democratic, naturally leads to a state of inaction and irresponsibility.

I believe that the best interests of the Medical Staff, as well as to the hospital as a whole, is best served by delegation of authority to its officers and Executive Committee within broad policy limits established by the Medical Staff

For maximum accomplishment and continuity, the Staff Officers, the executive committee, the Joint Liaison Committee and the Professional Department Chairmen of the Staff should serve for a period of at least three to five years. If the Staff realizes that their delegated representatives have vested authority, more intelligent selection of those to represent them will follow. Men with ability, veracity and potential of accomplishment will then be placed in these responsible positions.

The Medical Staff must be responsible to the Board of Trustees and the Administrator for its own discipline as far as the quality of medical care of the patient and the standard of medical ethics is concerned. But, in addition, the Medical Staff must also resolutely maintain discipline of each member or department as applied to conduct, words or actions which deter or destroy the morale of the staff, the nursing or other hospital personnel, or which may reflect adversely upon the governing body, the administration or the hospital as a whole.

Malicious and irresponsible personnel or official accusations, innuendoes, or tirades by individual or groups of Staff members, undermine confidence and respect and destroy morale of the entire hospital. Individual meddling in matters strictly administrative or within the delegated province of the Trustees should not be tolerated. Suggestions, attempts to help, and constructive criticism should be encouraged but it must be expected that they be properly channeled and reviewed, and if found worthy, brought to the attention of the Administration and/or Trustees officially for action.

No administration or Board of Trustees can possibly be expected to respect Staff vacillation of opinion, irresponsibility or unreasonable demands.

The Board of Trustees has a right to expect financial support from each member of the Staff in fund-raising campaigns for the hospital, each to the best of his own ability, but this should never be by assessment unless this responsibility is unfairly assumed and then it should be by Staff action. How can we expect the Board of Trustees to contribute generously and to in-

fluence others to do the same, if we do not participate as generously in proportion to our ability?

There are many, many, other correctable deficiencies which influence Staff-Trustee relationship. I am convinced that the establishment and maintainence of a realistic, effective Joint Liaison Committee, composed of respected and responsible representatives of the Board of Trustees, the Medical Staff and the Hospital Administrator, together with the President or Chief of Staff as an Advisory Trustee, can do more than anything else to sponsor the ideal Staff-Trustee relationship, as well as promote the best interests of the patient, the hospital and the Staff.

Liaison is a bond or connecting link implying co-ordination of activities and intent, with a common purpose and directed toward a common objective.

‹‹‹ ›››

Carcinoma: A Rationalization

Robert Adelman, M.D., Sterling

THE following is a rationalization of the problem of carcinoma as seen thru the eyes of a practicing physician. In support, I fall back upon the following by Sir Robert Hutchinson[1]. "As regards the content, one is struck by the great excess of facts and the comparative absence of ideas, generalizations, and hypotheses. There is, in short, too much observation and recording and too little reflection. Hence much of it is like a heap of bricks without any mortar to hold them together."

Because carcinoma is essentially cell growth, in spite of the fact that this growth is uncontrolled and deleterious to the welfare of the host, it is expedient to examine the picture of cellular growth in noncarcinomatous, or normal tissue.

An individual cuts his hand and in a short time, broken cells are replaced and the wound heals. He falls and breaks his wrist, and it is only necessary to reduce and immobilize the fracture and healing will follow. We are thus struck by the realization that it is only when tissue is lacerated or bruised, broken or burned, that a series of changes ensue that is characterized by cell growth; a process we call healing. Clinically this is borne out by the indolent ulcer that we mechanically scrape or chemically irritate, in order to stimulate growth.

In other words, it is felt that cell growth (excluding that in the normally growing child), will take place only as the result of tissue injury, by whatever agent or noxious element this injury may be caused. We postulate then, that under normal circumstances, tissue growth is a chain of events, initiated by cell injury.

Schematically this may be represented by the following:

Let x-ogen be the inactive growth factor present in all cells.

Then, x-ogen + injury = x (the active form)

x + adjacent tissue = growth

Support for the presence of a tissue growth factor can be found in the literature. Sir Howard Florey[2] says, "Pathologists have long been fascinated by the idea that cells, in dying, liberate substances or hormones that stimulate the surviving healthy cells of the same type to produce new cells thru division, thus repairing the original damage." He quotes Wiesner[3] in 1892, and Bier[4] in 1917 who discussed the possible role of "wound hormones" in the healing of human wounds: "The hormones to be considered are, in my opinion, produced at the site of in-

jury, and exert their effect in part locally by diffusion into the surrounding tissues." Similar views were expressed by Marchand[5], Haberlandt[6], and Carrel[7].

Florey further refers to Aub[8] and co-workers, "who noticed that partial hepatectomy of one individual of a pair of parabiotic rats induced mitotic activity in the intact liver of the non-hepatectomized partner in 48-72 hours after the operation." Menkin[9] in his fascinating review of healing, agrees with the possibility of a growth-promoting factor liberated by injured cells.

Basically, carcinoma differs from so-called normal tissue by an outstanding feature: Whereas normal tissue will grow until the original structure has been repaired and will then cease, carcinoma will continue to grow irrespective of the body needs. It is as if a single injury activates a previously inert substance, which stimulates adjacent tissue to proliferate; this proliferation replaces the damaged tissues and then ceases. Let this area be again injured, and again this chain of events takes place. But, carry this process on often enough, and a point is apparently reached where a change takes place. Thus, whereas cellular injury by any noxious agent stimulates growth, oft-repeated injury of the same tissue by whatever agent, raises the stimulating factor to a point that is irreversible.

That these stages exist, is supported by Boyd[10] who says, "Every cell may be considered as potentially malignant. A common characteristic of carcinogenic agents is the long period of time required to produce carcinoma. It would appear that the process of carcinogenesis consists of two phases:

1) a process of long duration which induces a condition of potential malignancy, corresponding to precancerous conditions in man; 2) sudden change of potentially malignant into malignant cells."

That there is a basic denominator underlying carcinoma and normal tissue, inflammation, and repair, is borne out by the following:

Boyd[11]: As regards microscopic diagnosis in general, one of the most difficult tasks is to differentiate between sarcoma and inflammatory tissue.

Gebele[12]: Steps are: first injury, next inflammation, then carcinoma.

Virchow[13]: There is merely a quantitative difference between irritation and inflammation.

Ackerman and Regato[14]: Apparently any cell or, more likely, any group of cells, having the property of growth and reproduction can, under proper stimulation, become the ancestor of cells that manifest characteristics associated with neoplasia.

Thus we put forth another principle: Oft-repeated cell injury of the same tissue in any individual, if continued sufficiently, will result in neoplastic reaction.

Let us return to normal tissue. Why does normal tissue when injured grow to a certain point and then cease? If injured tissue releases a stimulating factor for growth, is it not feasible that growing cells elaborate an antigrowth factor? Schematically:

x-ogen (the inactive form) + injury = x (the active form)

x + tissue = tissue growth;

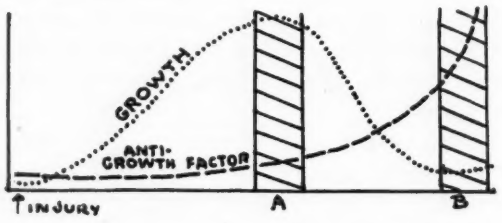
tissue growth elaborates an antigrowth factor (and an equilibrium is reached)

What then happens in carcinoma? It is as if the antigrowth is exhausted and growth continues unrestrained. Ackerman and Regato[15] voice this in the following: "The extraordinary property of tissue cells is not that they occasionally assume neoplastic properties, but that in most instances they "know" exactly when to stop growing following injury, during regeneration, and during embryonic development. Rather than a stimulation, cancer can be considered as the loss or absence of certain inhibiting substances."

Menkin[16] adds his support when he says: "It is conceivable that a neoplasm is in large part the result of some cellular disequilibration either in the form of injury as seen in long standing inflammation, hormonic imbalance, or even in a virus infection with the consequent release from the cell of a growth promoting factor or factors. When this or these factors are superimposed on either a genetically susceptible organism, or in the presence of a specific carcinogenic substance, the result may be a malignant process."

From this line of reasoning, there would follow an interesting plan of attacking carcinoma. In normal tissue, following an injury, growth shortly reaches its peak, and then subsides. According to the above stated assumption, the antigrowth or inhibitory factor increases and

reaches its peak. This can be shown on a graph as follows:



Now, if shortly after tissues are injured, an extract be prepared (at A), the growth factor should be at its height, and if injected into an animal, should stimulate growth. However, if the injured tissue be allowed to heal, the antigrowth factor should be at its maximum (B), and the tissue extract prepared from it at this point, if injected into carcinomatous cells, should inhibit growth.

That we may hope to one day be able to control cancer, is adequately stated by Ackerman and Regato[17]: "An oft-repeated dictum is that cancer is an irreversible process; once cells have acquired neoplastic characteristics, they cannot revert to normal growth. This deduction, used in the mutation theories of cancer, lacks proof and may well apply only to the last, frank stage of the process."

SUMMARY

1. The consensus of pathologists, going back to 1892, is presented, maintaining that a tissue growth-factor is liberated from injured cells.

2. A postulate that under normal circumstances, tissue growth is a chain of events initiated by cell injury.

3. A postulate that oft-repeated cell injury, of the same tissue in any individual if continued sufficiently will result in neoplastic reaction.

4. A postulate that normal tissue not only releases a growth-promoting factor, but also an antigrowth, or growth inhibitory factor.

5. A plan of attacking carcinoma is presented: Making an extract from injured tissue, after it has healed, and when the antigrowth factor should be at its height.

Sterling-Rock Falls Clinic

REFERENCES

1. Annotations: Dullness of Medical Literature, Bull. Minnesota M. Founda. 3:26. [Nov.] 1941.
2. Florey, Sir Howard: Lectures on General Pathology, 1954.
3. Wiesner, J.: Elementarstruktur und das Wachstum der lebenden Substanz, Vienna; A. Holder, 1892.
4. Bier, A.: Dtsch. med. Wschr. Nos. 27-30, 1917
5. Marchand, F.: Verh. dtsch path. Ges. 4:124, 1901.
6. Haberlandt, G.: Beitr. allg. Bot., 2:1, 1921.
7. Carrel, A.: Physiol. Rev., 4:1, 1924.
8. Bucher, N.L.R.; Scott, J. F., and Aub, J. C.: Cancer Res., 10:207, 1950.
9. Menkin, Valy: Newer Concepts of Inflammation, 1948.
10. Boyd: Surg. Path.
11. Ibid.
12. Meyer, Willy: Carcinoma.
13. Ibid.
14. Ackerman and Regato: Cancer.
15. Ibid.
16. Menkin, Valy: Ibid.
17. Ackerman and Regato: Ibid.

‹‹‹ ›››

One out of every ten

Eleven dollars out of every $100 spent by American consumers for services are for health services and death expenses. A Commerce Department report discloses that in 1955 consumer expenditures for services totalled $91.2 billion, of which $10.1 billion came under the heading "Medical Care and Death Expenses." Hospitalization and drugs, as well as doctor bills, are classified under medical care. The only two types of services which surpassed this grouping dollar-wise in 1955 were those incidental to housing ($31.2 billion) and personal business ($12.5 billion). Lesser sums were spent for transportation ($7.4 billion), recreation ($4.9 billion), religious and welfare activities ($3.4 billion), and various other categories of services. Between 1929 and 1955, consumer outlay for medical care and death expenses increased 260 per cent —from $2.8 billion to $10.1 billion. This represents the greatest rise of all categories for this 26 year period. *Medical and Death Expenses Up. GP. July* 1956.

Palliative Vagatomy for Nonresectable Bronchogenic Carcinoma

Douglas R. Morton, M.D., F.A.C.S., Elgin
Neil C. Andrews, M.D., Karl P. Klassen, M.D., F.A.C.S. and George M. Curtis, M.D., F.A.C.S., Columbus, Ohio

A REVIEW of the pertinent literature shows that a large percentage of cases of bronchogenic carcinoma is nonresectable at exploratory thoractomy. At present there is little to add to the comfort of these patients during the terminal stage other than symptomatic treatment and irradiation. In previous communications[6,7,8] the authors presented a new concept of the neurophysiology of the bronchial tree which affords a basis for the performance of an additional procedure in an attempt at palliation of these unfortunate patients.

During the last 10 to 15 years bronchogenic carcinoma has attracted more attention than previously, mainly because of the increasing frequency of this lesion. Its insidious onset is largely responsible for failure in early recognition of the lesion and subsequent delay of definitive therapy. Of 1,016 consecutive cases reported by Edwards[4] surgery was feasible in only 17 per cent (173 cases). Of the 173 cases subjected to surgery 41 per cent (70 cases) were considered to be resectable; whereas 59 per cent (103 cases) had exploratory thoractomy only.

In another series of 155 patients Churchill[2] reports that surgery was performed in 34 per cent (52 cases); and of those operated upon, resection was possible in only 52 per cent (27 cases). Clagett and Brindley,[3] reporting from the Mayo Clinic, state that of 90 cases subjected to exploratory thoractomy, resection was possible in only 50 per cent (45 cases). In 1948 Oschner et al[9] reported a series of 307 cases subjected to surgery. Although 195 received the benefit of resection, 70 per cent of these were considered to be palliative. In the remaining 112 cases the lesion was sufficiently advanced that exploratory thoractomy only was performed. In the last 100 consecutive patients operated upon in our clinic, 51 per cent were found to be nonresectable.

These statistics indicate that approximately 50 per cent of patients subjected to surgery are found to be nonresectable. It is in this latter group that the authors believe some palliation can be achieved by transection of the homolateral vagus trunk immediately below the origin of the recurrent laryngeal nerve.

Analysis of several series of patients reveals that two of the more frequent and distressing symptoms are cough and chest pain. Reference to Table 1 indicates that in a large collected series the average frequency of cough was 75.8 per cent and that of chest pain, 58.0 per cent. Obviously alleviation of these two symptoms during the terminal phase would add measurably to the comfort of those patients found to be nonresectable at the time of exploratory thoractomy. We have found that section of the homolateral

From the Thoracic Surgical Service, Health Center, Ohio State University, Columbus, Ohio.

TABLE 1
Incidence of Cough and Chest Pain in Patients with Bronchogenic Carcinoma

Author	Cough			Chest Pain		
	Total No. in Series	No. with Cough	%	Total No. in Series	No. with Chest Pain	%
Brines & Kenning (1)	73	64	87.0	73	44	60.2
Frissell & Knox (5)	46	41	91.0	46	33	71.7
Ochsner et al (10)	58	52	89.7	58	18	31.0
Overholt (11)	165	136	82.0	165	70	51.4
Simons (12)	1,376	996	72.3	1,439	861	59.8
Morton et al	100	90	90.0	100	66	66.0
Average		75.8%			58.0%	

vagus trunk immediately below the origin of the recurrent laryngeal nerve has afforded relief of these symptoms in the majority of patients.

The physiologic basis and rationale for the performance of this procedure is briefly reviewed. In a previous communication[7] it was demonstrated that electric stimulation of the tracheobronchial tree during bronchoscopy resulted in pain. The referral of such pain was consistent and symmetric. In general, stimulation of the posterior wall of the main bronchi referred pain to the homolateral anterior chest wall within 4 cm. of the sternum or to the anterior cervical region within 2 cm. of the midline.

Stimulation of the posterior wall of the trachea at a point 1 cm. proximal to the carina resulted in referral of pain to the anterior midline at a point extending from the larynx to the xiphoid. Since establishing that the mucous membrane of the tracheobronchial tree is sensitive to pain, it is our belief that the symptom of chest pain in these patients, especially in the absence of pleural involvement, is largely of bronchial origin. Confirmation of this belief is provided by anatomic studies which reveal that approximately 75 per cent of bronchogenic carcinoma arise in the main bronchi.

In subsequent studies utilizing the same technique, it was demonstrated that pain of bronchial origin was abolished on the homolateral side in the majority following transection of the vagus trunk immediately below the origin of the recurrent laryngeal nerve[8]. These findings suggest that the afferent fibers that transmit pain from the bronchial tree are carried by the homolateral vagus nerve. Concomitant studies in this group of patients revealed that the cough reflex arising from stimulation of the homolateral bronchial tree had been abolished, whereas the cough reflex from the contralateral bronchial tree had remained intact[6]. Four agents (foreign bodies) were utilized in stimulating the nonanesthetized bronchial mucosa: a bronchoscope, an electrode, a tracheal catheter, and lipiodol. In all patients, introduction of the foreign body into the homolateral main bronchus was not accompanied by coughing; whereas their introduction into the contralateral main bronchus resulted in violent paroxysmal coughing. These findings suggest that the afferent fibers transmitting bronchial impulses resulting in cough are carried by the homolateral vagus nerve.

On the basis of these studies the homolateral vagus trunk was transected immediately below the origin of the recurrent laryngeal nerve in 25 patients with nonresectable bronchogenic carcinoma at the time of exploratory thoractomy. In some of the patients found to have pleural extension of the tumor, crushing or transection of the appropriate intercostal nerves was performed. Adequate postoperative follow-up was possible in 18 of these cases (Table 2).

Representative cases are herewith presented:

Case 1. A.B., a 46 year old white male, was hospitalized complaining of productive cough, left anterior chest pain, chills and fever, and exertional dyspnea of 9 months' duration. X-ray films of the chest demonstrated a tumor mass in the left hilum, and bronchoscopy was confirmatory. There was no evidence of peripheral metastasis. Exploration revealed a nonresectable lesion.

A high left vagotomy was performed. The intercostal nerves adjacent to the incision were crushed posteriorly prior to closure. Postoperatively he was seen at monthly intervals. He remained free of chest pain and cough until the 11th postoperative month, when he complained of dyspnea, dysphagia, and hiccup. Barium swallow demonstrated extension of the tumor into the esophagus. During the 13th postoperative month he was hospitalized in a terminal state with considerable cough, chest pain, dyspnea, cachexia, and left shoulder pain, and expired shortly thereafter.

Case 2. H.R., a 54 year old white male was hospitalized with a history of an oppressive pain in the right anterior chest and productive cough following an attack of "flu" 3 months prior to admission. X-rays demonstrated an enlarged right hilar shadow with segmental atelectasis of the right upper lobe. There was no evidence of peripheral metastasis. Bronchoscopic biopsy was reported as squamous cell carcinoma. Exploration revealed a nonresectable tumor, and a high right vagotomy was performed. The patient was seen frequently until expiration 8 months later. He remained free of cough and chest pain until his last month of life, at which time he complained of right brachial plexus pain, mild cough, dyspnea, and peripheral edema. Narcotics were necessary only during the terminal two weeks.

Case 3. H.A., a 52 year old white male was hospitalized with a history of severe productive cough, hemoptysis, and right anterior chest pain of two months' duration. X-rays revealed an atelectatic right upper lobe, and bronchoscopy demonstrated a polypoid tumor arising from the right upper lobe bronchus. There was no evidence of peripheral metastasis. Exploration revealed a nonresectable tumor, which proved to be undifferentiated carcinoma on frozen section. Since tumor extension prevented identification of the vagus trunk, a high vagotomy could not be performed within the thorax. The thoractomy incision was closed after crushing the fourth, fifth, sixth, and seventh intercostal

TABLE 2

RESULTS OF HIGH VAGOTOMY IN 18 PATIENTS WITH BRONCHOGENIC CARCINOMA

Patient	Symptomathology: Cough	Symptomathology: Chest Pain	Post-Operative Data
H. A.	+	+	Survived 8 months. Free of cough and chest pain until terminal month.
A. B.	+	+	Survived 13 months. Free of cough and chest pain for 11 months. Severe symptoms terminally.
L. G.	+	+	Survived 6 months. Free of cough until expiration. Developed contralateral chest pain due to metastasis in 4th month.
E. G.	+	0	Survived 10 months. No chest pain. Developed mild cough and pain in left arm during terminal month.
J. G.	+	+	Survived 4 months. No chest pain. Developed moderate cough terminally.
D. H.	+	0	Survived 6 weeks. No cough or chest pain.
H. L.	+	+	Survived 8 months. Mild cough and moderate chest pain terminally.
J. M.	+	+	Survived 7 months. No cough or chest pain.
H. P.	+	+	Survived 4 months. No chest pain. Developed cough terminally.
E. P.	+	0	Survived 8 months. During convalescence Co^{60} needles inserted into main bronchus for 6 days without producing cough. Developed mild cough terminally.
L. P.	+	+	Survived 13 months. No cough. Developed shoulder and abdominal pain in 9th month.
M. P.	+	+	Survived 13 months. Developed moderate cough and chest pain terminally.
H. R.	0	+	Survived 8 months. Developed cough and brachial plexus pain terminally. Required narcotics during last 2 weeks only.
E. S.	+	+	Survived 10 months. No cough. Developed shoulder pain terminally.
F. S.	+	+	Survived 6 weeks. No cough or chest pain.
S. S.	+	+	Survived 3 months. No cough or chest pain.
P. T.	+	+	Survived 2 months. No cough or chest pain.
R. Y.	+	+	Survived 4 months. No chest pain. Developed mild cough at night terminally.

nerves posteriorly. A cervical exploration was performed; the vagus nerve was identified in the carotid sheath and transected. Other than the resultant hoarseness, the postoperative course was benign. The patient was seen frequently and he remained free of cough and chest pain until the terminal four weeks, during which time he developed a moderate cough, chest pain, and dyspnea. He expired eight months postoperatively.

Case 4. D.H., a 54 year old white male was hospitalized with a history of cough, weight loss of 25 pounds, and general malaise of four months' duration. X-rays demonstrated atelectasis of the anterior segment of the right upper lobe. There was no evidence of peripheral metastasis. Exploration and biopsy revealed a nonresectable tumor, and a high right vagotomy was performed. He was discharged on the seventh postoperative day subjectively improved, but was readmitted six weeks later because of repeated episodes of severe epistaxis. The platelet count was 45,000 and bone marrow studies revealed metastatic malignancy. He expired 24 hours after readmission. At no time subsequent to surgery had he noted cough or chest pain.

Case 5. E.G., a 57 year old white male was hospitalized complaining of a chronic productive cough, fatigue, and a weight loss of 35 pounds of eight months' duration. X-rays demonstrated a segmental atelectasis of the left upper lobe with a shift of the mediastinum to the left. Slight fixation of the left hilar structures and bleeding from the left main bronchus were observed during bronchoscopy. There was no evidence of peripheral metastasis. Exploration and biopsy revealed a nonresectable carcinoma. A high left vagotomy was performed. Nine months later the patient complained of slight cough and pain in his left arm. He expired the tenth postoperative month.

Case 6. R.Y., a 64 year old white male was hospitalized complaining of cough, fatigue, dyspnea, and right posterior chest pain of 1 year's duration. X-rays demonstrated segmental atelectasis of the right lower lobe.

Bronchoscopy revealed an irregular polypoid mass in the right lower lobe bronchus which on biopsy proved to be carcinoma. There was no evidence of peripheral metastasis. Exploration revealed a resectable lesion which infiltrated the adjacent parietal pleura. A high right vagotomy was performed; and in addition the fifth, sixth, seventh and eighth intercostal nerves were crushed. In the following three months he experienced no chest pain; only mild cough upon retiring at night and a weight gain of 4 pounds. He expired four months postoperatively.

DISCUSSION

Reference to Table 2 demonstrates that high vagotomy resulted in successful palliation of cough and chest pain in the majority of patients with nonresectable bronchongenic carcinoma. No complications could be attributed to the performance of this procedure.

The postoperative progression of tumor growth and its resultant bronchostenosis undoubtedly leads to stagnation of secretions distal to the lesion. In some instances, mild to moderate cough recurred during the terminal stage of life, which we believe was due to spillage of accumulated secretions into the trachea and the contralateral innervated bronchial tree. In others, recurrence of chest pain was noted several months postoperatively, which appeared to be directly proportional to the length of survival. These findings suggest possible regeneration of the vagus nerve or involvement of other nerve pathways by an enlarging tumor mass.

Inasmuch as the cough reflex, ciliary activity, and the respiratory movements of the bronchi are considered to be the more important physiologic mechanisms in the maintenance of a patent and efficient tracheobronchial tree, one might well wonder whether or not abolition of the cough reflex impairs the clearance of bronchial secretions. In order to evaluate the efficiency of clearance of secretions from the homolateral denervated bronchial tree, bronchographic studies were performed.

These patients serve as their own controls in that clearance of secretions from the denervated homolateral bronchial tree can be compared with the clearance of secretions from the normal innervated contralateral bronchial tree. Caution was exercised in the performance of the bronchograms so that an equal amount of lipiodol was introduced into each side of the bronchial tree by using a nasotracheal catheter. One to seven days after bronchography, PA chest X-rays were

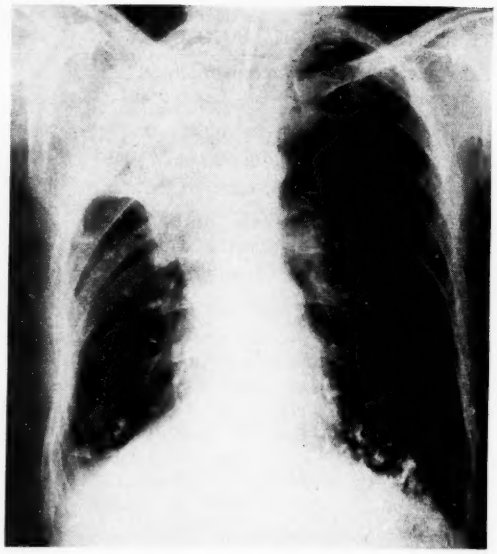


Figure 1. Roentgenogram taken 4 days after bronchography. Lipiodol is seen in a basel alveolar distribution bilaterally without excessive pooling on the side of the right vagotomy. Note density of the nonresectable tumor in the right upper lobe.

obtained in order to determine the residual amount of radio-opaque material remaining in both sides of the bronchial tree. If the residual oil in each side were found to be the same it could be assumed that unilateral vagus section had not impaired the efficiency of clearance of secretion from the homolateral bronchial tree (Figure 1). In all cases, with one exception, there was no pooling of secretion, such as would be evidenced by a greater residuum of oil on the homolateral side. In the one patient in whom a moderate pooling of oil was noted in the homolateral basal segments, there was a concomitant limitation of diaphragmatic movement. It was thought that this prevented complete bronchial clearance, since full activity of the diaphragm was present on the contralateral side.

During the initial stages of this study the occurrence of so-called vagovagal reflex, cardiac arrythmias, and cardiac arrest was considered to be a serious possibility but these complications were not encountered. Anatomic studies demonstrated that in sectioning the right vagus trunk immediately below the recurrent laryngeal branch, the vagus nerve was transected proximal to the origin of the right thoracic cardiac branch. To determine whether or not this procedure

caused any cardiovascular effects, continuous electrocardiographic tracings were employed during surgery. Comparison of these tracings to those obtained preoperatively and postoperatively revealed no changes secondary to vagotomy at this level.

SUMMARY

1. A brief review of the literature pertaining to the symptomatology and resectability of bronchogenic carcinoma is presented. In a large collected series the average frequency of cough was 75.8 per cent and that of chest pain, 58.0 per cent. In approximately 50 per cent of the patients subjected to surgery the lesion was found to be nonresectable.

2. A new concept of the neurophysiology of the bronchial tree is briefly reviewed. This affords a physiologic basis for the performance of a palliative high intrathoracic vagotomy immediately below the origin of the recurrent laryngeal nerve in an attempt at palliation of the distressing symptoms of cough and chest pain in patients deemed nonresectable at the time of exploration.

3. Homolateral high vagotomy was performed in 25 patients found to have nonresectable bronchogenic carcinoma at the time of exploratory thoractomy. The results in 18 patients are reported, revealing substantial alleviation of cough and chest pain. No complications attributable to the performance of this procedure were noted. Seven cases were lost to follow-up.

Addenda: The authors stress that they do not advocate palliative vagotomy for the obviously inoperable case of bronchogenic carcinoma, but only in those patients found to be nonresectable at the time of exploratory thoracotomy.

1. Brines, O. A. and Kenning, J. C.: Bronchiogenic Carcinoma. Am. J. Clin. Path. **7**:120, 1937.
2. Churchill, E. D.: Resection of the Lung. Surgery **8**:961, 1940.
3. Clagett, O. T. and Brindley, G. V. Jr.: Bronchogenic Carcinoma. Surg. Clin. N. A. **24**:839, 1944.
4. Edwards, A. T.: Carcinoma of the Bronchus. Thorax **1**: 1, 1946.
5. Frissell, L. E. and Knox, L. C.: Primary Carcinoma of the Lung. Am. J. Cancer **30**:219, 1937.
6. Klassen, K. P.; Morton, D. R.; and Curtis, G. M.: The Clinical Physiology of the Human Bronchi. III. The Effect of Vagus Section on the Cough Reflex. Bronchial Caliber, and Clearance of Bronchial Secretions. Surgery, **29**:483, 1951.
7. Morton, D. R.; Klassen, K. P.; and Curtis, G. M.: The Clinical Physiology of the Human Bronchi. I. Pain of Tracheobronchial Origin. Surgery **28**:699, 1950.
8. Morton, D. R.; Glassen, K. P.; and Curtis, G. M.: The Clinical Physiology of the Human Bronchi. II. The Effect of Vagus Section Upon Pain of Tracheobronchial Origin. Surgery **30**:800, 1951.
9. Ochsner, A.; De Bakey, M.; Dunlap, C. E.; and Richman, I. Primary Pulmonary Malignancy. J. Thoracic Surg. **17**:573, 1948.
10. Ochsner, A.; Dixon, J. L.; and De Bakey, M.: Primary Bronchogenic Carcinoma. Clinics **3**:1187, 1945.
11. Overholt, R. H.: A Common Masquerading Lung Disease. Dis. Chest **9**:197, 1943.
12. Simons, E. J.: Primary Carcinoma of the Lung. Chicago. Year Book Publishers, Inc. 1937.

‹‹‹ ›››

Signs of addiction

There are no pathognomonic signs of addiction besides puncture marks, scars, sclerosis of veins, or other evidence of repeated injections. Although the barbituates and alcohol produce unmistakable signs of intoxication, the opiates do not cause mental confusion, emotional stability, nystagmus, and ataxia after tolerance has been developed. Similarly, pupillary constriction cannot be relied upon for diagnosis. Although there are reliable tests to detect morphine and cocaine in the urine, these tests are extremely complex and time-consuming, and are not ordinarily available to the general practitioner. N-allylnor morphine, an antidote for morphine, is now the subject of current research as a test for drug addiction. The drug produces signs of abstinence in addicts within 15 minutes after administration; however, the limits of reliability and safety have not been sufficiently established to justify general use for diagnostic purposes. *Drug Addiction. Psychiat. Bull. Summer,* 1956.

Chronic Ulcerative Colitis: Histochemical Studies

MICHAEL H. STREICHER, M. D.*, HUBERT R. CATCHPOLE, PH.D.†, and CONRAD LEVI PIRANI, M.D.§, Chicago

THE brief report of Levine, Kirsner and Klotz[1] indicated a new direction in studies of ulcerative colitis. While literature offers many excellent histopathological studies of the colon, we do not consider the evidence satisfactory for the specificity of the lesion of ulcerative colitis *per se*.

Among others, Warren and Sommers[2] described the essential pathology of ulcerative colitis and differentiated the more common crypt-abscess type from an essentially vascular phenomenon of the periarteritic (nodosa) or thromboangiitic type. Levine *et al* added to this description an account of biopsy specimens treated by newer histological and histochemical techniques, in which changes in basement membrane and ground substance of the connective tissue were the prominent findings. On the basis of these changes, they suggested that ulcerative colitis could fall into the collagen disease group. The present study was initiated as a prelude to further analysis of this disease entity, and for comparison with other types of inflammatory change that may be encountered in the lower bowel. Methods comparable to those of Levine *et al* were employed utilizing a fairly large series of normal and affected patients.

We selected 28 patients with ulcerative colitis and 15 normal subjects. Each patient was observed at intervals for long periods and was investigated roentgenologically and proctoscopically. Patients under study did not receive medication and were free of prolonged inflammatory or chronic disease of any other character.

Chronic ulcerative colitis patients presented symptoms of diarrhea, loss in weight, abdominal cramping, and blood in the stools. Symptomatology varied a good deal in severity, but as a rule was of the same pattern type. On proctoscopic examination, following the classification of Logan, positive cases of ulcerative colitis were graded as type 3 or 4 depending on the degree of involvement of the mucosa. Type 4 represents the more advanced stage, with ulcerations and alterations in the caliber of the lumen of the colon. Clinical and proctoscopic diagnoses were confirmed by roentgenologic study of each patient following a barium enema. In five of the 28 positive cases, the roentgenologic study failed to confirm the clinical and proctoscopic diagnosis, implying that the colon was not advancedly involved and that the pathologic process had not extended to the outer serosal layer of the colon. The 15 controls were negative for any pathologic findings clinically, proctoscopically, or roentgenologically.

Biopsies of the mucosa from upper and lower segments of the colon were obtained through the proctoscope in patients with disease at a time when specific medication was being withheld. Tissues from corresponding sites were also taken from patients who were clinically normal. The biopsy fragments were placed on slips of paper and instantaneously frozen in isopentane chilled to —180° C. by means of liquid nitrogen. These were then dehydrated in vacuo at −30° C. When dry, the fragments were infiltrated *in vacuo* in pure paraffin melting at 56-58° C. and then embedded in paraffin. Sections at 6 micra were affixed to slides lightly coated with egg albumen by finger pressure and brief warming.

Cellular and morphological details were studied in hematoxylin and eosin stained sections. Visualization of mucoproteins and mucopolysaccharides of the connective tissue was accomplished by use of the Hotchkiss-McManus technique[3,4]. The ground substance of connective tissue is stained pink and basement membranes in various shades of deeper red or purple. Mucus in the gland cell stains bright reddish purple;

*Deceased.
†Research Associate Professor of Pathology.
§Professor of Pathology, University of Illinois, College of Medicine, Chicago.

TABLE 1.
Histopathologic Findings of Specimens of Colon

No. of Patients	Colon Biopsy	Component elements identified on H and E stain							
		Degree of inflammatory changes in cells		Gland hyperplasia					
		severe	mild	severe	medium	Fibrosis	Abscess	Ulceration	Edema
28 Ulcerative Colitis	upper	19	5	12	8	2	4	5	4
	lower	17	5	11	3	3	2	4	4
15 Normals	upper		10		3				7
	lower		10		3				7

and cellular granules consisting, for example, of mucoprotein or of glycogen are stained red[5]. The latter may be differentiated by the use of amylase, which dissolves glycogen. Total and water soluble mucoprotein material were assessed by a standard method used in this laboratory[6].

In the microscopic study of hematoxylin and eosin stained slides, note was made of the following characteristics: epithelial and glandular cell morphology; extent of ulceration if present; extent and type of inflammatory cell infiltrates; and fibroblastic reaction. In the Hotchkiss-McManus treated sections, special attention was given to subepithelial, glandular, and blood vessel basement membranes; ground substance; granules of fibroblasts and macrophages; and solubility of connective tissue elements.

Histological findings in the colonic mucosa and submucosa in 15 normal and 28 ulcerative colitis subjects, judged by clinical criteria, are summarized in Table 1. In the first group, the glands and their lining cells appeared normal in size, structure, and number and only a small number of lymphocytes was noted between the glands and the submucosa. Small lymphoid follicles appeared as a normal finding. Congestion of blood vessels and edema of the interstitial tissues were seen in about half the cases, and in practically all it was possible to see infiltration of chronic inflammatory cells diagnosable as minimal, slight, or mild. The occurrence of these changes in normal individuals may indicate a relatively unstable situation in the lower bowel, in which its particular functions of high motility combined with local factors of distention and high bacterial content may predispose it to subclinical alterations of an inflammatory nature.

In ulcerative colitis, much greater inflammatory features were noted in the mucosa and submucosa. There was a moderate to heavy accumulation of chronic inflammatory cells, often accompanied by small abcesses and ulceration of the mucosa permitting a definite diagnosis of ulcerative colitis of greater or less severity or chronicity. In five patients, inflammation appeared to be chronic, with no ulceration and these were classified as chronic colitis. In practically all cases where marked inflammation was present, the glands appeared formed by hypertrophic cells, their structure was abnormal, and frequently their number was greatly reduced. The cells involved in the inflammatory process included lymphocytes, polymorphonuclear leucocytes, eosinophilic leucocytes, and in the more chronic cases, plasma cells and histocytes.

Study of sections stained with the periodic acid-fuchsin method permit an appraisal of certain elements of the connective tissue not seen in the routine examination. The most striking changes concern the basement membranes of glands and blood vessels and of the epithelium of the colon (in some cases the latter was not seen owing to faulty orientation of the section).

In normal material, the glandular basement membrane stains as a prominent red line, sharply delimited from the unstained basal portion of the gland cells containing the nuclei. Vascular basement membranes are observed in small vessels of the mucosa as prominent components of the perivascular connective tissue. The interstitial ground substance stains a light pink in normal subjects; in certain sites, it appears to be homogeneous and dense. The surface epithelial basement membrane was rated as moderately to heavily prominent. Special attention was given to fibroblasts which appeared to be disposed con-

TABLE 2.
Histochemical Findings in Colon Mucosa

Number of Patients	Periodic acid—leucofuchsin method applied to frozen-dried tissue				
	Basement membrane				
	Glands	Vessels	Ground Substance	Multinucleated Pleomorphs	Mucus
28 Ulcerative Colitis	fragmented, frayed or absent	less clear, generally intact	pale pink sparse	numerous	uneven or paler granules or not definitely granular
15 Normals	prominent, intact	clear, intact	bright pink abundant	few or scattered	dense, deep red-purple granules

centrically in the vicinity of glands in routine sections. In normal material, many of these were seen to be rather heavily filled with periodic-acid leucofuchsin positive granules. On the other hand, macrophages containing similarly staining but dense and homogeneous material were scarce (Table 2).

In ulcerative colitis cases, the basement membrane of glands provided the most conspicuous alteration from the normal in being far less prominent, frequently fragmented, or even absent. The vascular basement membranes in the mucosa shared this change. The ground substance was somewhat harder to characterize; it could be faint pink staining or occasionally darker staining; homogeneity was harder to recognize owing to the more frequent edema. The fibroblasts in the vicinity of the glandular basement membrane appeared to be less granular; cells, presumably macrophages, containing dense homogenous periodic acid fuchsin staining material tended to be numerous in the interstitial connective tissue. The surface epithelial basement membrane, where observed, tended to be faint, fragmented, or absent. A resume of these changes is given in Table 2.

In scanning carefully the slides of ulcerative colitis patients, it was possible occasionally to observe an appearance that may represent a tendency to glandular regeneration. Then, isolated areas of glands with a well marked basement membrane were seen, associated with granule-containing fibroblasts in the near vicinity.

The appearance of mucin in gland cells, staining red or purple with the periodic acid leucofuchsin reagent, presented some interesting features. Mucigen granules were described by Gersh[5] in goblet cells following treatment in all respects comparable to ours, as discrete, spherical, brilliant red bodies. Similarly, in glands of the normal colon, the mucin granules were usually resolvable under high powers of the microscope into uniform discrete spheres of high color intensity. In ulcerative colitis cases, the mucin frequently appeared as more or less dense masses, not always resolvable into distinct granules. Occasionally there was an appearance as if the granules had become somewhat swollen in life, blurring their outlines. Along with the loss of glands and the somewhat changed morphology of individual glands, the cells appeared to contain less mucin than did normal cells.

Pairs of slides of normal and ulcerative colitis tissues were prepared and stained simultaneously to observe the effect of buffer on the basement membrane and ground substance. As already noted, with the ulcerative colitis material one tends to start with a less marked staining of basement membrane and ground substance in unextracted sections; this may become pronounced after buffer treatment. In normal tissue, treatment with buffer will leave the ground substance generally lighter; the glandular basement membranes may be unchanged or somewhat extracted and are sometimes swollen; vascular basement membrane is not greatly changed. The granules of normal fibroblasts often are not greatly affected by buffer treatment; mucin granules swell and mucin is dissolved in part by one hour buffer treatment, leaving mucin cells with a highly vacuolated appearance. Material in

macrophages also is extracted.

Following buffer extraction, the basement membranes of glands in ulcerative colitis may present a washed out, fragmented appearance; those of blood vessels are not always greatly affected. The ground substance will in general be light, washed out, and nonhomogenous. Granules in fibroblasts usually are not seen following buffer. The material in the numerous macrophages is washed out and mucin, as in the normal, is dissolved and the cells appear vacuolated.

DISCUSSION

Levine, Kirsner and Klotz[1] have presented a new concept of the pathogenesis of ulcerative colitis which would group it with the collagen diseases. We do not propose to discuss the pros and cons of this classification, but aim to present findings which are essentially confirmatory of the findings of the above authors, with certain extensions which will be noted. Certainly, the alteration in the basement membrane of glands in this disease is striking. In the normal, this structure is well demarcated in periodic acid leucofuchsin stained material as a pink to red staining membrane, postulated by Gersh and Catchpole[6] to be continuous with the ground substance of the connective tissue. Basement membrane and ground substance are assumed, on the basis of staining and solubility reactions, to consist of a colloidal aggregate of mucoprotein and mucopolysaccharide substances, and the relation between them has been discussed[6]. A characteristic reaction of this colloidal matrix appears to be its potentiality to disaggregate under certain circumstances, and a series of publications have presented evidence for the occurrence of this type of reaction in tissues following trauma, hormonal treatment, or disease[6,7,8]. In the normal material studied, granule-containing fibroblasts are observed in close relationship with the basement membranes of glands. These granules are stained red by the periodic acid-leucofuchsin method and were considered to represent precursors of the similarly staining extracellular material[6]. A direct comparison of normal and ulcerative colitis tissues shows that the latter present a picture of imperfect and fragmented or absent basement membrane of glands in particular. The staining reaction of the ground substance is fainter as a rule, and this also appears to be less homogeneous, and to contain more ice crystal artefact, indicating a higher water content. A disagrregation of the colloidal matrix with increased water solubility and "washing out" of material may be postulated as the basis of this appearance. The appearance of fibroblasts in ulcerative colitis differs from the normal in that granules seem to be largely absent from these cells in relation to the basement membrane of glands. A tentative explanation may be that in the initial stages of the disease these cells may be called upon to supply a ground substance that is being chronically lost; they eventually reach an exhausted, degranulated stage. The presence of multinucleated cells staining heavily with periodic acid-leucofuchsin is a prominent feature of ulcerative colitis material, although they are present to some extent in normals. The stainable material is not removed by buffer extraction. These cells appear to be identical with the multinucleated pleomorphic cells described by Rappaport[8] in the nasal mucosa of allergic patients.

Changes in the glandular structures of the colon involve loss of these elements, variations in their size and pattern, and changes in the character of the mucous secretion itself. The appearances noted in normal glands indicate that mucus is stored as small discrete granules; on discharge from the cell, these would be expected to swell and dissolve. Ulcerative mucosa would appear to contain an absolute deficiency of glands, and the amount of stored material often appears to be sparse. There also is a morphological difference in the appearance of the storage product, as a more homogeneous, possibly partially swollen substance. The histological appearance might be explained by supposing that there is continual release of mucin from affected glands, possibly joined with impaired synthesis. Since[6] the ground substance and basement membrane has been postulated as the route of transfer of all metabolites from blood to gland cell, such an impairment could be based on the ground substance changes observed.

It seems desirable to draw attention to one feature of these connective tissue changes the importance of which cannot be completely assessed at present. Recent work has indicated the role of the connective tissue colloids in the uptake of salts and water, based upon their properties as ionic exchange resins[7,9]. The large bowel is known to be a site from which water is normally

reabsorbed, and into which large quantities of fluids may be lost. The ability of the intestinal mucosal to absorb or retain water (and salts) appears to be intimately related to the state of aggregation of its colloids.

In this connection it may be pertinent to mention that while we have in all cases endeavoured to study patients, normal and ulcerative, who have been similarly prepared for proctoscopic biopsy, and to this extent are comparable, nevertheless, this preparation may in itself induce certain changes in the mucosa. In this connection, one may point to the rather high amount of mild inflammatory change and edema observed in colonic material in all other ways rated as essentially normal.

While the changes previously described in the mucosal membrane of the colon of patients with ulcerative colitis appear to be quite consistent, their specificity for this disease is not fully established. A careful study of inflammatory diseases of the colon, other than ulcerative colitis, and of comparable severity, is necessary to evaluate the importance and specificity of these changes.

CONCLUSION

1. The findings previously described regarding changes in glandular basement membrane and ground substance in ulcerative colitis are essentially confirmed.
2. Parallel but smaller changes appeared in the basement membrane of the surface epithelium and mucosal blood vessels.
3. Fibroblasts related to the basement membranes of glands are granulated in the normal and degranulated in ulcerative colitis.
4. A changed pattern of mucous secretion may be found in ulcerative colitis.
5. It is hoped that these studies may throw some light on the pathogenesis of ulcerative lesions of the colon.

REFERENCES

1. Levine, M. D., Kirsner, J. B., and Klotz, P.: A. New Concept of the Pathogenesis of Ulcerative Colitis, Science **114**:552, 1951.
2. Warren, S., and Sommers, S. C.: Am. J. Path. **25**:657, 1949.
3. Hotchkiss, R. D.: A New Chemical Reaction Resulting in the Staining of Polysaccharide Structures in Fixed Tissue Preparations, Arch. Biochem. **16**:131, 1948.
4. McManus, J. F. A.: Histological and Histochemical Uses of Periodic Acid, Stain Technol. **23**:99, 1948.
5. Gersh, I.: A Protein Component of the Golgi Apparatus, Arch. Path. **47**:99, 1949.
6. Gersh, I., and Catchpole, H. R.: The Organization of Ground Substance and Basement Membrane and its Significance in Tissue Injury, Disease, and Growth, Amer. J. Anat. **85**:457, 1949.
7. Joseph, N. R., Engel, M. B., and Catchpole, H. R.: Homeostainesis of Connective Tissues 11 Potassium-sodium Equilibrium, Arth, Path. **58**:40, 1954.
8. Rappaport, B. Z.; Samter, M.; Catchpole, H. R.; and Schiller, F.: The Mucoproteins of the Nasal Mucosa of Allergic Patients before and after Treatment with Corticotropin, J. Allergy **24**:35, 1953.
9. Meyer, K. and Rapport, M. M.: The Mucopolysaccharides of the Ground Substance of Connective Tissue, Science **113**:596, 1951.

‹‹‹ ›››

Wash wounds

Emergency treatment for compound fractures must include the process of converting a contaminated wound to a clean wound. It has been our experience that compound fracture wounds are best cleansed by using the method of Henry who advises a shower bath for the wound rather than a tub bath. After all the skin surrounding the area of the wound has been cleansed adequately with soap and water, while the wound is protected from further contamination, then the wound itself is copiously irrigated with either a saline solution spray or a spray of soap and distilled water. The object of this routine is, in the main, to remove gross contamination. *Charles K. Wier, M.D. Lower Extremity Fractures. J. Kansas M. Soc. June* **1956.**

Interpretation of the Routine Blood Count

KEITH TRUEMNER, M.D., ROCKFORD

THOSE of us in clinical laboratories of general hospitals look up frequently to see in our doorway a physician waving a laboratory report slip and saying, "What does this mean?" The following discussion is based on a series of routine blood count reports which are creations of the author's imagination rather than actual patients. Each illustrates specific points. Clinical entities, as such, will not be discussed but certain points about blood counts in general will be illustrated and certain diagnostic clews may be obtained from their interpretation.

First is shown an essentially normal adult blood count. Many clinicians have a single concept of normal with little realization of the variations induced by sex, age, and just plain individual differences. I need only remind you that such statements as hgb. 14-16 gm. and RBC.4-6 millions, are routine statements of normal values in textbooks. Time limitations prevent much discussion of these variations. I wish to comment, however, on the leucocyte variation with age since this is a frequent source of confusion among clinicians other than pediatricians.

At birth and in early infancy, leucocyte counts in excess of 12-15,000 are not unusual. The majority of these leucocytes are granulocytes. For several months after birth, the leucocyte count begins to fall toward the normal range of 5-10,000 with a decrease in per cent of granulocytes. Until the age of 4 or 5 there is a relative predominance of lymphocytes over granulocytes. In this interval, the clinician frequently raises the question of hematopoietic disease on the basis of lymphocyte percentages of 60-70% in what is a normal total WBC count. After this age, the granulocytes begin to assume their adult predominance.

Another constantly recurring "report slip-waver" is the conscientious clinician who has had a follow-up blood count on a specific patient within a matter of a few hours, and has detected what seems to him a glaring laboratory error. We must calmly assume that our technicians do work of average accuracy and proceed from there to evaluate the significance of this alleged error. The pertinent literature indicates that by the accepted routine procedures, the allowable technical error in a RBC count may be as high as 350,000 cells per cu. mm. If we take an arbitrary figure of 4,000,000, serial counts by the same individual may range from 3,650,000 to 4,350,000. It is largely for this reason that the hemotocril is being substituted for the RBC count in routine procedures in many institutions. For the leucocytes, there appears to be agreement that errors of 500-700 cells per cu. mm. are allowable. If we add such factors as diurnal variation, the effects of exercise, splenic contraction, or other sequestration mechanisms, we see that the clinical pathologist can usually "weazel out" of most accusations of inaccuracy. This does not excuse him from maintaining trained personnel and adequately calibrated equipment. Newer electronic equipment is under evaluation and may give more accurate results.

Hemoglobin determination, while technically easy to perform, is subject to wide error and variation between laboratories on the basis of difficulties in standardization. When adequate standards become available, the situation should be improved. There is a tendency to accept factory calibrated photometers as permanently accurate when this is not the case. Without going into technical details of calibration, I wish to comment on the danger of reliance upon factory calibrated glassware. A recent series of cuvettes used in an alkaline hematin method in our laboratory were found to give erroneous readings of from .5 to 1 gm. on the basis of variations in diameter and hence in length of the light path.

One variation in hemoglobin determination values between laboratories is strictly artificial and is the result of the fallacious concept of thinking of hemoglobin in terms of percentages instead of grams 100 cc. It is obvious that 100% of a 14.4 gm. standard in one laboratory is not the same as 100% in a laboratory which has used a 16 gm. standard in calibration of their procedure.

Associate Pathologist, Rockford Memorial Hospital.
Presented before the General Assembly, 115th Annual Meeting, Illinois State Medical Society, Chicago, May 19, 1955.

Another concept which arises occasionally is the distinction between relative and absolute variations in numbers of certain types of leucocytes. In a patient suspected of a viral infection such as infectious mononucleosis, a high normal leucocyte count of 10,000 assumes significance if we realize that the lymphocyte percentage of 50% indicates not only a relative lymphocytosis, but an absolute increase in the numbers of circulating lymphocytes. In a patient with a bad sore throat and a leucocyte count of 4,500 and a differential showing 50% lymphocytes and 50% granulocytes we become much more alarmed if we realize that this is an absolute granulocytopenia and only a relative lymphocytosis.

I wish to pass now to presentation of several stylized blood count reports from which some information of diagnostic import can be derived, although not necessarily indicating a specific disease entity.

A frequently encountered situation is a sudden massive blood loss of 750 cc. or more. An interesting sequence of events occurs in the peripheral blood. During the first hour or so the blood count reflects a phase of compensation in which anemia is not apparent. This is the phase of vasoconstriction and hemoconcentration. The situation may be suspected, however, by the marked rise in platelets which occurs within minutes after hemorrhage. Several hours later, anemia becomes apparent with readjustment of the intravascular fluid compartment. Granulocytosis also becomes apparent to a mild degree probably both from release by splenic contraction and bone marrow stimulation. Within a few days, regeneration should be apparent in the peripheral blood in the form of polychromatophillic and regenerative macrocytes; there may be an occasional normoblast if marrow is actively responding.

DEHYDRATION

The next report is intended to indicate the effects of dehydration on a patient whose previous hematologic status has been normal. On the basis of leucocytes alone we might expect a mild infection. If we compare the elevation of the hemoglobin and red blood cell levels, however, we see that there is a symmetrical elevation and there is no shift to left in the granulocytes to indicate accelerated production as usually occurs in polycythemia vera. This process of dehydration may occasionally mask significant degrees of blood loss or anemia. The true situation may be detected by performing a hematocrit determination and clinical evaluation of hydration.

HYPOCHROMIC ANEMIAS OF INFANCY

The next type is not rare in any practice, including infants. We frequently see these counts in children hospitalized for some infectious disease. The severity of hypochromic anemia usually comes as a surprise both to the clinician and the family. Most often these children are between the ages of 6 months to 2 years. Rarely can chronic blood loss be demonstrated. Hypochromic anemia and iron deficiency are difficult to produce in adults without chronic blood loss. Infants, however, who have been maintained on a largely milk diet, with multiple minor infections, readily develop an iron deficiency, hypochromic anemia. This picture is not directly related to economic status or neglect. More often it is due to improper feeding habits and the use of the bottle as a frequent "pacifier" with omission and rejection by the infant of other food elements. Although the specific therapy is replacement of utilizable iron and adequate diet with control or infection, many physicians are inclined to use blood transfusions which in our opinion are rarely required.

CHRONIC BLOOD LOSS

We next come to another variety of hypochromic anemia. In the adult the etiology of this picture must be considered chronic blood loss until proved otherwise. The gastrointestinal and genitourinary tracts must be primarily considered with the host of etiologic possibilities represented there. In the so-called cancer age group, one cannot place too much stress on the significance of anemia *per se* as a diagnostic clew. One location, the cecum and right colon, deserves special emphasis. Review of cases of carcinoma in this location will quickly impress one with the frequency of anemia, apparently obscure, as the initial and only complaint. It should be emphasized that in this location the morphologic type of anemia is variable. We may have classical, hypochromic, microcytic RBC's but almost as frequently we find a normocytic, normochromic picture or even macrocytic cell pictures. The etiology frequently is more complicated than simple blood loss and involves less well understood factors of changes in intestinal bacterial flora and absorption of hematopoietic factors.

Likewise the anemia of chronic renal disease is not always on the basis of continued, low grade, blood loss but may be partially the result of direct inhibitory effect either on myeloid function or cell release mechanisms in the presence of chronic azotemia.

We cannot spend much time discussing the megaloblastic anemias. You all recognize in this report the classical features of deficiency of erythrocyte maturing factor; macrocytic normochromic anemia, and the morphologic alterations in the red blood cell, leucopenia with the more recently emphasized morphologic changes in the granulocytes, and varying degrees of thrombocytopenia. We all would feel fairly confident in suggesting pernicious anemia on the particular blood count showing severe relapse. Unfortunately this picture is extremely rare in these days of polypharmacy when most patients present themselves having taken varying amounts of potent "vitamin pills." The usual picture is blurred both in the peripheral blood and bone marrow by partial treatment effects. The recent use of radioactive vitamin B_{12} is aiding in the diagnosis of this group of patients. It should also be emphasized that in addition to the true megaloblastic anemias of addisonian type, tapeworm infestation, and sprue causation, many macronormoblastic pictures are seen in severe hepatic and gastrointestinal diseases. Accurate diagnosis of true pernicious anemia requires careful evaluation of the hematologic picture (blood and marrow) clinical findings, gastric acidity, and treatment response.

The next picture is not too frequently encountered in the average small to medium size general hospital but deserves comment because it may occasionally suggest an early myelogenous leukemia as it did to several internists at a recent meeting where we called for diagnoses from the floor. The leucocytosis will moderate left shift and the erythroblastosis are compatible with the bone marrow stimulation occurring in the hemolytic anemias. Of course, here we have credited the technician with recognizing the classical spherocytic microcytes on the routine count which helps in the diagnosis.

The next slide is included because of the frequency with which it is seen and the obscurity of pathogenesis. The occurrence of mild degrees of normocytic normochromic anemia in the woman at or near the menopausal age is apparent, especially to those dealing with female donors in blood banks. One usually investigates diet, menstrual history, endocrine status, and even performs bone marrow examination without helpful results. Shotgun hematinic therapy is of inconsistent help. I am not too clear as to the ultimate course of these patients. Fortunately the degree of anemia is rarely dramatic. They are a most damaging group of patients to the clinical pathologist's reputation as a hematologic diagnostician.

There are two groups of cytopenic states that should be commented on: The first are the cytopenias developing from bone marrow suppression either on a toxic basis or the so-called idiopathic varieties. While it is true that one element or the other of the peripheral blood may be disproportionately involved, there usually is a rather obvious effect on all cell elements. The peripheral manifestations may be predominately anemia, leucopenia, or thrombocytopenia. The peripheral blood picture usually is a quiet disappearance of cell elements unaccompained by immaturity or other evidence of regenerative activity until remission occurs.

The second category is the group usually called myelophthisic. Included here are the conditions of so-called agnogenetic myeloid metaplasia, neoplastic involvement of marrow by such entities as carcinoma, Hodgkin's disease, or lymphoblastoma. Here, because the marrow involvement is not total, we find evidence of peripheral immaturity representing compensatory activity of uninvolved marrow or release of cells from extramedullary sites of hematopoiesis. The immaturity of the leucocytes may be sufficient to suggest leukemia in some instances. Leucocytosis may actually occur producing so-called leukemoid reaction.

In conclusion, I wish to repeat my initial remarks that this rather unscholarly and general presentation has been an attempt to indicate some of the more common problems and certain diagnostic clews which the clinical pathologist encounters in the interpretation of routine blood counts. We have dealt with broad categories of peripheral blood findings much in the manner of a baseball coach playing the percentages of the game. The conclusions reached must always be placed in proper relationship to other laboratory evidence and the clinical evaluation of the patient.

CASE REPORTS

Unusual Sequela of Ringworm of the Scalp

JERRY C. LEVIN, M.D., AND ALFRED B. FALK, M.D., CHICAGO

Ulceration complicating tinea capitis in children occurs infrequently. This is a report of a patient having an apparently mild fungous infection of the scalp, in whom there suddenly developed a kerion which quickly became a severe ulcer simulating a Meleney type lesion. Laymon[1] mentions erosions and ulcerations occurring with tinea capitis but a review of the available reports of the past 20 years, including our cases at The Children's Memorial Hospital for the past 10 years, shows no similar occurrence.

J. P., a white male aged 9 years 9 months was well until November 1954. At that time he developed a patch of alopecia the size of a 25 cent piece in the occipital area. Examination of this patient and his two brothers under the Wood's light demonstrated the presence of marked fluorescence of the affected hairs, findings compatible with the diagnosis of a fungous infection.

Treatment with a fungicidal ointment, Hyanilid,® was initiated along with the wearing of a stocking cap. Four months later the patient developed a kerion, a mild purulent secondary infection at the site affected by the fungous infection. The above ointment had been used continuously since the first examination. The kerion[2] was not extensive but fungicidal medication was stopped. The local use of hot® compresses was instituted along with Gantrisin orally. Within a few days an ulcer three centimeters in diameter destroyed the site of the previous fungous involvement (Figure 1). An undermining border extended about the entire periphery of the ulcer, the base of which was the periosteum of the skull. Surgical debridement and vioform paste locally, along with orally administered antibiotics, resulted in complete healing of the ulcerated area within a month's time.

Laboratory studies including Kahn test, blood counts, and fractionation of blood proteins were within normal limits. Material removed from the ulcer and cultured proved the absence of fungi and the presence of beta hemolytic staphylococci.

A culture of affected hairs from one of the patient's brothers demonstrated the presence of Microsporon audouini.

COMMENT

Miller, et al,[3] cultured Microsporon audouini from 96.6 per cent of his patients in a series of

From the Departments of Dermatology, The Children's Memorial Hospital and the University of Illinois, College of Medicine.

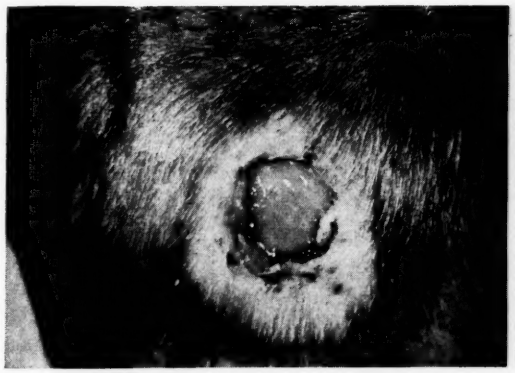


Figure 1. Ulcer of scalp.

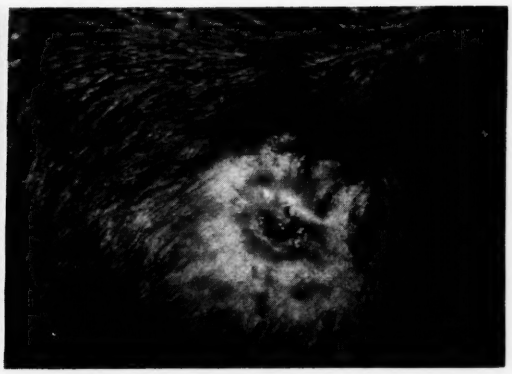


Figure 2. Healed ulcer.

928 cases of ringworm infection of the scalp. Warner and Grove[4] in a similar study with 40 patients was able to demonstrate the fungus in only 28 of these. All of the 40 individuals in the latter study had fluorescence of the affected sites under the Wood's light. Severe secondary infection is an obstacle to the demonstration of the fungus.

In our patient, the diagnosis was established by the physical findings, positive evidence under the Wood's light, and demonstrating exposure to Microsporon audouini. The general health of this child was excellent. Why this infection was so severe is debatable. Once the kerion appeared X-ray treatment was excluded as a modality of aid. Possibly early use of radiation therapy could have prevented the series of events in this child. Antibiotic therapy undoubtedly served to prevent further progress of the ulcer (Figure 2).

SUMMARY

A case of ringworm infection of the scalp in a child is presented and the unusual extent of ulceration demonstrated. The probable cause of this complication was his lack of resistance to the virulent secondary bacterial infection.

25 E. Washington St.

REFERENCES

1. Laymon, C. W.: Kerion, Review, Minnesota Med., 29: 137, 1946.
2. MacKee, G. M., and Cipollaro, A. C.: Skin Diseases in Children, Paul B. Hoeber, Inc. p. 49, 1947.
3. Miller, J. L., et al.: Local Treatment of Tinea Capitis, J.A.M.A., 132:67, 1956.
4. Warner, M. P., and Grove, F. E.: A Study of Forty Cases of Ringworm of the Scalp, J. Pediat., 43:267, 1953.

Night calls

It is important that physicians not acquire and carry over from their residency training experience certain attitudes toward practice which may later cause the public to be critical of the medical profession. This refers to the charge that modern physicians are unwilling to answer night calls and otherwise hold themselves available for service outside normal duty hours. This circumstance has necessitated vigorous efforts on the part of physicians to improve their public relations. Since many of the practicing physicians of today served during the period of war in military hospitals, they became accustomed to the practice of leaving their hospital responsibilities in the hands of an officer of the day at the end of the day. This was partly fostered by the transportation shortage and the existence of motor pools. As larger numbers of military physicians acquired families, there was more reluctance to spend long hours in the hospital at night. *John C. Nunemaker, M.D. The Professional Responsibilities of a Physician. Veterans Administration, June* 27, 1956.

Anaphylactic Reaction of Penicillin — V

WERNER FLIESSER, M.D., AND CHARLES A. RAMEY, M.D., HOOPESTON

SENSITIVITY to all forms of penicillin has been described. Occurring as anaphylactic or urticarial reaction it has been observed following parenteral and, to a lesser degree, oral administration.

In the following case a severe anaphylactic reaction developed after ingestion of one tablet of penicillin V (125 mg.).

C.L.F. a 54 year old male factory superintendent, was given penicillin V tablets for treatment of an upper respiratory infection. He was known to be sensitive to parenteral procaine penicillin G and had developed angioneurotic edema of the face and generalized urticaria in March 1955, three days following administration of procaine penicillin G intramuscularly.

On January 11th this man took one tablet of penicillin V (125 mg.). One half hour later he noticed generalized itching and formation of wheals. Both increased in size and intensity, and during the next fifteen minutes his hands swelled and he experienced difficulty in breathing. He stated that his throat was swelling shut. A few minutes later he was unable to talk above a whisper, was breathing with a loud stridor and became unconscious.

At this moment he was seen by one of us (C.A.R.) at the factory. He presented the picture of severe cardiovascular collapse. A radial pulse was unobtainable, the blood pressure was 60/44, the breathing was severely labored, shallow and irregular. His face was edematous and pale. He was immediately given 0.5 cc. of 1:1000 solution of epinephrine intravenously. While this was administered slowly he regained consciousness and the pulse became palpable. At the same time oxygen became available. Ten minutes later another dose of 0.5 cc. epinephrine was given subcutaneously, followed by 100 mg. cortisone and 1 cc. of 1:500 suspension of epinephrine in oil intramuscularly. The blood pressure had risen to 82/46 and he now was alert and communicative, stating that he felt well except for generalized itching. The facial edema and general urticaria were still noticeable although diminished. Thirty minutes later his blood pressure was 122/78 and he was returned to his home with a prescription for prednisolone 5 mg. tablets to be taken every six hours.

It was hoped that with the oral administration of penicillin V a known sensivity to other penicillin salts may be circumvented. It appears now, however, that passive transfer tests performed by Woodin[1] indicate that cross reactions to penicillin V should be expected in persons who had previously experienced sensivity reactions to other penicillin salts.

217 S. Bank St.

[1]Woodin, W. G. Personal communication.

EDITORIALS

Nickel dermatitis

Contact dermatitis due to nickel is becoming more prevalent. Fisher and Shapiro[1] saw 198 patients over a five year period with dermatitis of this origin. Calnan and Wells[2] reported that the condition now is the most common type of sensitivity dermatitis encountered in routine dermatological practice. The results of patch tests in their clinic over the past three years are as follows:

	Total Positives	Nickel Positives
1953	478	131
1954	412	198
1955	420	180

The increased incidence may be explained by this claim of a leading nickel manufacturer: "Nickel is with you and does things for you from the time you get up in the morning until you go to sleep at night."

This statement is fairly accurate as contact with the metal occurs through the fasteners, clasps, clips, and buckles on garters, girdles, earrings, brassieres, zippers, hair grips, brooches, spectacles, watches, suspenders, and bracelets. Nickel is used also in thimbles, knitting needles, metal chairs, certain coins, handles of car doors, baby carriages, umbrellas, refrigerators, and handbags.

The primary eruption develops over the area where the metal touches. The skin of the thighs, for example, is involved from contact with the fasteners on garters; the ear lobes, from earrings; and the chest from brassiere clips or necklaces. The typical eruption consists of small papules and vesicles with signs of excoriation and friction. Less frequently, the lesion is acutely exudative and sometimes thickened and lichenified. On the ear lobes, it is exudative and crusted.

The secondary sites are unrelated to direct contact with the metal. The outbreak spreads to the elbow flexures, eyelids, sides of neck, and inner thighs. Occasionally it becomes generalized. It consists of scattered papules and papulovesicles on a background of erythema. Pruritus co-exists. The cause often escapes detection because the patient waits until the secondary rash appears.

A careful history is needed to uncover the sequence of events leading to a suspicion of contact dermatitis. Fisher and Shapiro found patch testing with a five per cent nickel sulfate solution an adequate diagnostic method. Patch testing with nickel coins is reliable also, provided the coins actually contain nickel. This metal was replaced temporarily during World War II with silver and manganese. It is important to use a coin that was manufactured prior to that time or after 1945. The coin is fastened to the skin and left in place for 48 hours. Redness, swelling, itching, and small blisters indicate a positive result.

Since it is so difficult to avoid nickel, each patient must solve his own problem. Earrings, for example, can be painted with a clear nail

1. Fisher, Alexander A. and Shapiro, Alfred: J.A.M.A. 161: 717, 1956.
2. Calnan, C. D. and Wells, G. C.: Brit. M.J. 4978: 1265 (June 2) 1956.

lacquer; or the part touching the skin may be covered with adhesive, cellophane, fabric, plastic, or other protective. Dusting with talcum powder before putting on the earrings will protect for several hours. The condition is worse in the summertime because sweating dissolves the metal more readily.

‹ ›

Special meeting of the house of delegates

On Sunday, August 19, a special meeting of the House of Delegates of the Illinois State Medical Society, was held at the Hotel Sherman, Chicago. This session was called to consider Public Law No. 569, passed by the 84th Congress and commonly referred to as the Dependents' Medical Care Act. There were 140 delegates representing 65 component county medical societies.

As the first order of business, the President, Dr. F. Lee Stone, called upon Dr. Edwin S. Hamilton to give a report on Public Law No. 569, and the work of the A. M. A. committee which is working with the Department of Defense on plans for putting the Act into operation.

Dr. Hamilton, as chairman of the A. M. A. Task Force Committee on Dependents' Medical Care, had met with representatives of the D. O. D. on several occasions and carefully reviewed several drafts of the program. Only three days prior to this meeting, Draft No. 7 had been released, and copies were available for those desiring to see the few minor changes from Draft No. 6 which had previously been mailed to all delegates.

Dr. Hamilton also pointed up the fact that if the Society chose not to participate in the program, the D. O. D. was authorized by Law to set up a plan of its own for the State.

A panel was on hand to answer questions from the Delegates. Dr. Percy E. Hopkins, as Chairman of the Committee on Medical Service and Public Relations, was moderator of the panel, which was composed of the members of his committee, Doctors Piszczek, Sweeney, Coleman and Hamilton; John W. Neal, the Society's counsel; representatives of the Illinois Medical Service and the Northern Illinois Blue Shield Plan operating from Rockford, a representative of the commercial insurance companies and Mr. Joseph Stetler, head of the A. M. A.'s Law Department.

Many questions were asked, and the moderator referred them to members of his panel, for the answers. It was stated that this care applies only to dependents of those in the uniformed services, and has nothing at all to do with the Veterans Administration and its services. After the discussion period ended, Dr. Stone said that there were three things to be decided at the meeting. They were:

1. Does the Illinois State Medical Society desire to participate in the operation of the Dependents' Medical Care Act?

2. Does the Society desire to act as the fiscal agent for its operation in Illinois, or do the delegates prefer to select perhaps a Blue Shield Plan operating in Illinois, or a commercial insurance company to act in this capacity?

3. Matters relative to the establishment of fee schedules to cover the many services to be rendered to those covered by the act in Illinois.

Dr. Hopkins was asked to poll the representatives of Blue Shield plans and the commercial insurance representative as to whether their respective organizations would be willing to act as fiscal agent in carrying out the provisions of the law. These representatives all gave assurance of their willingness to cooperate in the carrying out of the provisions of the Act.

The first motion was that it be the consensus of the House of Delegates that the Illinois State Medical Society participate in this program. The motion was duly seconded and passed.

The second motion, was "that we have an Illinois Blue Shield Plan act as the fiscal agent." This motion was carried.

It was then moved that the Executive Committee of the Council "be instructed to enter into any agreement necessary to implement this action." The motion carried.

A Delegate then asked, "if the policy-making group of the Blue Shield Plan selected does not desire to enter into this kind of agreement, then what shall we do?"

A motion was made and duly seconded, "that if this is not accepted by the Blue Shield Plan, the matter be left to the discretion of the Council to find another fiscal agent". The motion carried.

There was considerable discussion relative to the matter of fees for services to be rendered to the dependents, as prescribed in the law. After this discussion, it was moved that a committee from the Council be designated to go over the entire list of services for which fees are to be charged, then report its recommendations to the Council for final action. A second was received and the motion was carried.

It must be remembered that the medical profession had for many years endeavored to have the government provide civilian medical care for dependents of persons in the uniformed services. Now that there is a federal law enacted to provide such care, we physicians must do everything we can to make the program work to the satisfaction of uniformed service personnel, the medical profession and the federal government.

Legislative — Public Relations meeting

The annual Public Relations Institute of the American Medical Association was held at the Drake Hotel, Chicago, on August 29-30, 1956. The Illinois State Medical Society cancelled its P.R. dinner meeting, usually held during the annual meeting in May, so the Council approved the recommendation of the Chairman of the Committee on Medical Service and Public Relations, that the component county societies having a P.R. chairman be asked to send the chairman to this meeting with expenses paid by the society.

A dinner meeting was held on the evening of the 29th at the Hotel Sherman for the P.R. chairman from Illinois, with an evening program, and with time for discussion of some problems in that field.

With the assistance of the A.M.A.'s legal staff, an interesting afternoon session for county society Legislative chairmen was arranged, and also conducted at the Hotel Sherman 2:00 until 5:30. Approximately 50 were present for the afternoon meeting as well as the dinner and after dinner talks. Harlan English presided at this afternoon meeting, and he first discussed the subject "The Big Picture" (Report on National Legislation). Mr. R. G. Van Buskirk, secretary, A.M.A. Committee on Legislation, had a "preview" on what to expect in the 85th Congress.

Mr. Walter L. Oblinger, associate counsel for the I.S.M.S., talked on legislation at the state level, while Mr. John W. Neal, general counsel, talked on "Licensure and Regulation of the Healing Professions." Percy E. Hopkins, chairman of the Committee on Medical Service and Public Relations discussed Blue Shield enabling legislation. The proposed revision of the Coroner's Act was discussed by Edwin F. Hirsch, and Frederick W. Slobe talked on the proposed revision of the Workmen's Compensation Law in Illinois.

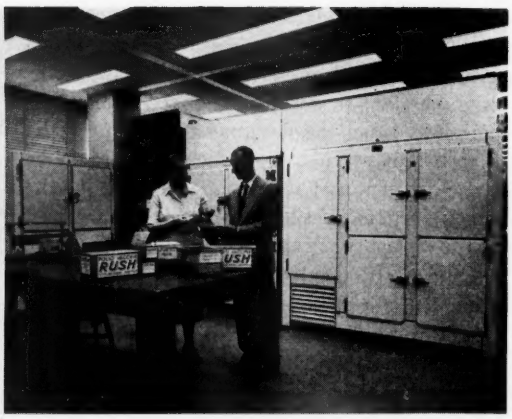
Thomas Alphin, Director of the A.M.A.'s Washington Bureau told of the work of his group at the nation's Capitol and what he desired from those at the state level. With all participants acting as panelists, an hour-long question and answer period followed.

Dr. Hopkins presided at the evening meeting following the dinner, and the first speaker was Mr. George E. Hall, staff associate, A.M.A. Law Department. His subject was, "Coroner Versus Medical Examiner Systems in the United States." The last speaker was John L. Bach, Director of Press Relations, A.M.A., who presented an interesting paper entitled, "Who is Going to Bell the Cat?" Although the subject would no doubt cause some who did not hear it, to wonder what he was talking about, Mr. Bach gave an excellent discussion of public relations problems affecting the medical profession. A discussion period followed the evening program and those who participated received worthwhile information.

These programs were arranged by Mr. Edward A. Uzemack, P.R. Director for the Illinois State Medical Society, and he deserves much credit for the success of the meetings. The two groups attended the A.M.A.'s P.R. meeting the following day, where many excellent talks were presented.

Dr. Hopkins and his Committee on Medical Service and Public Relations also deserve much credit for the afternoon and evening meetings held at the Hotel Sherman for Illinois chairmen from the two committee groups.

Roland R. Cross, Director, Illinois Department of Public Health, in his new office.



Ruth E. Church, Chief, Division of Communicable Disease Control, and Mr. Albert Hampsmier, shown in the vaccine storage room.

New offices for the Illinois Department of Public Health

Dr. Roland R. Cross, Director, Illinois Department of Public Health, has worked diligently in his many duties over a period of 16 years under handicaps. This summer, the fine new office building erected by the State of Illinois was completed. Recently the State Health Department moved its entire staff and equipment into the new building, occupying all the fifth and part of the sixth floor. It was recently the privilege of the officers of the Illinois State Medical Society to inspect these fine quarters, and we asked for a statement and some pictures which we believe will be of interest to the medical profession of the state.

Dr. Cross' long tenure probably establishes a record for all code departments of the state and certainly for the Department of Public Health. No previous director held that position for more than eight years and none served under more than one governor. Dr. Cross has established another record by serving under four governors, two Republicans and two Democrats.

The medical profession in Illinois, through cordial relationships and close cooperation with Dr. Cross and his staff, has had confirmed its belief that the cause of better health is best served when the practicing physician and the public health profession work side by side. These years have also demonstrated that the continuing philosophy and principles of an able administrator result in program maturity and effectiveness.

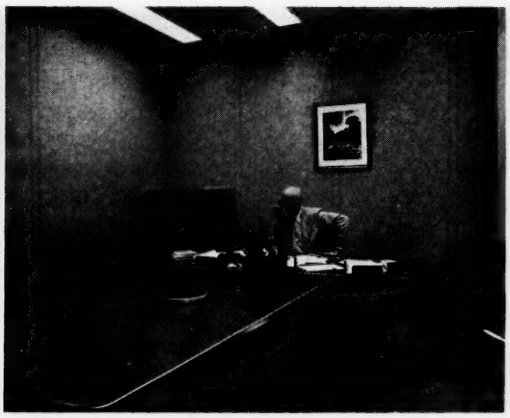
The public health program in Illinois reflects such maturity and effectiveness. Over the years the contributions and services of the Department of Public Health have been expanded, intensified and improved. A brief review of a few examples will suggest the quality and vigor of the department's program since Dr. Cross' initial appointment on October 19, 1940.

1. Communicable diseases generally are far less prevalent than ever before in Illinois and the trend is downward. No case of smallpox has been reported in the state since 1947, while diphtheria and typhoid fever are close to the vanishing point.

2. The care and treatment of tuberculosis patients, a significant control measure, was entered upon for the first time by the state in the late 40s. The construction of two state tuberculosis sanatoria, with a total of 585 beds, and their subsequent operation by the department, has contributed substantially to the reduction in mortality from tuberculosis. Another major activity in the control of tuberculosis has been the casefinding program. Mobile units for taking free x-rays of the chest have operated throughout the state since 1946. More than 300,000 x-rays are taken annually by these units. Tuberculosis deaths have declined from 40 per 100,000 persons in 1945 to 9.2 in 1955. This is a reduction of about 75 percent in 10 years.

3. The community hospital construction program was begun in 1947 with a comprehensive survey of the hospital situation in Illinois to

View of the general offices of the Bureau of Communicable Disease Control.



Mr. Baxter K. Richards, Deputy Director, Division of General Administration, Illinois Department of Public Health, in his new office.

determine areas of greatest need. The department has worked closely with communities in fostering construction where really needed. Since 1947, 71 projects with an aggregate of 5,300 beds have been authorized at an overall cost of almost $100,000,000. Of these, 48 are now in operation and located in communities which previously had no hospital facilities or only obsolete and inadequate facilities. The program will make adequate hospital services available within 30 miles of any residence, or the equivalent driving time.

4. Because the greatest single cause of death among babies is being born too soon, the program for the care of premature babies was started in 1943. The case load for the first year was 50. About 1,000 babies are now cared for annually in this program.

5. The mushroom growth of nursing homes in Illinois resulted in the enactment of legislation in 1945 requiring licensure of these homes to alleviate undesirable conditions. Through its inspectional and licensing program, the department has been able to improve operational standards of some 630 licensed nursing homes which care for about 24,000 people.

6. The licensing of trailer coach parks, in accordance with a law enacted in 1953, has resulted in substantially improved sanitation and safety in the nearly 600 trailer coach parks which provide living quarters for some 40,000 people.

7. The licensing of hospitals and the consultation service provided to hospitals is promoting the improvement and maintenance of high standards of operation in some 300 Illinois hospitals. Comprehensive regulations were approved by a Hospital Licensing Board of physicians, representatives of hospital administration, and members of governing boards.

8. Since the enactment of enabling legislation in 1943, 27 counties in Illinois, with help and encouragement from the department, have established full-time health departments. With the full-time municipal and district health departments, these provide two-thirds of the people of Illinois with full-time services on a home-rule basis.

9. Detailed diagnostic service for some 4,000 patients annually is provided by 29 cancer diagnostic clinics throughout the State. These clinics are financed in varying amounts by the Department of Public Health and serve the practicing physician in detecting many cases of cancer and potential cancer in the early curable stage.

10. The Department spearheaded an all-out fight on poliomyelitis by the purchase and free distribution to physicians of more than 4,000,000 doses of polio vaccine which was paid for from a state appropriation of $1,000,000 and a Federal allotment of $1,887,000.

11. The department carries on a two-pronged program for the control and prevention of heart disease. This includes an attack on rheumatic fever, a prolific source of heart disease, and the operation of two clinics for the early detection of heart disease. A penicillin preparation to prevent recurrence of rheumatic fever is distributed

free by the department to physicians in cooperating counties and county medical societies. Some 1,700 children are now being treated.

12. An extensive laboratory service is maintained which tests about 1,000,000 specimens per year for various communicable diseases and for analyses of water and milk.

13. Dental x-ray surveys of children throughout the State are conducted for detecting tooth decay and for motivating them and their parents to seek early dental care. Approximately 50,000 children are x-rayed annually.

14. Fluoridation of public water supplies has been encouraged since this method of preventing tooth decay was scientifically proven advantageous. Approximately 90 communities in Illinois are now providing fluoridated water to almost 5,000,000 persons.

15. Three narcotics outpatient clinics have been operated in Chicago through funds made available by the department. About 250 narcotics addicts annually are given medical counseling to keep them away from narcotics, to help them get and hold jobs, and to help them adjust to normal community life and behavior.

16. A medical residency in public health has been established for qualifying physicians through a joint program of the Department of Public Health and accredited local health departments. This is an educational program of two years duration accredited by the American Board of Preventive Medicine and the Council on Medical Education and Hospitals of the American Medical Association. Cooperating in this program to interest and qualify young physicians for a career in public health is the Illinois State Medical Society, the University of Illinois, and the Illinois Statewide Public Health Committee.

17. A recent and long needed improvement is the acquisition of new and commodious office space for the department. The department now occupies all of the 5th floor and a part of the 6th floor of the modern State Office Building in Springfield.

These are but a few of the programs and accomplishments of the Department of Public Health, which are contributing effectively to the health of the people of the state. Prevailing health conditions in Illinois today are better than at any previous time in the state's history. Death rates from preventable causes are lower than ever before while the birth rate is unusually high, indicating a vigorous, healthy population.

Many additional programs could be cited in the fields of school health, maternal and child health, adult health, environmental sanitation, nutrition, and others. This review is sufficient, however, to reflect the great strides that the public health program has made under the able leadership of Dr. Cross. This happy state of health affairs in Illinois recalls to mind the words of George Eliot: "The reward of one duty done is the power to fulfill another."

‹ ›

Health insurance coverage at an all-time high

A recent release from the American Medical Association gave some interesting information on the present status of hospital and medical care insurance. Benefit payments to help people pay hospital and medical care bills are running 20 percent higher than a year ago, according to an announcement by the Health Insurance Council. This information was released following the 10th annual survey of the extent of voluntary health insurance coverage in the United States.

The Council estimates that as of July 31, 1956, some 110 million persons were covered by hospital insurance; 94 million had surgical protection, and 58 million had regular medical expense coverage. In addition to these protective measures, seven million were insured against major hospital and medical expenses. The entire survey brings together Blue Shield and Blue Cross figures, as well as those of independent plans, and plans underwritten by insurance companies.

Some interesting highlights of the survey as of the end of 1955 were released. The number of persons insured against hospital expenses increased by 6.1 percent; surgical insurance was up 7 percent; regular medical expense insurance gained 17.5 percent, while major hospital and medical expense insurance was up 134.5 percent.

Benefits for hospital expense held the top spot in America's health insurance program—59,645,000 persons held policies from insurance

companies 50,726,000 enrolled by Blue Cross—Blue Shield, and 4,530,000 were covered by miscellaneous plans. It is quite obvious that there is an increasing public awareness of the cost of catastrophic illness which was largely responsible for the sharp rise in the number of people covered by major hospital and medical expense insurance. More than 90 percent of the 5,241,000 persons covered at the end of 1955 had protection through their place of employment while the remainder of the group were insured through individual and family plans.

Protection to help meet the expense of surgical care was provided by private insurance companies to 56,645,000 persons; by Blue Shield—Blue Cross plans to 39,165,000 and by other types of plans to 4,340,000.

The Health Insurance Council is a federation of the leading insurance associations, and its report will be available in pamphlet form later this year.

Medicine on postage stamps

Among the postage stamps issued in recent months and of interest to collectors of stamps with medical subjects were the following:

Columbia—A 5c stamp bearing portraits of Jean Henri Dunant, founder of the International Red Cross, and Santiago Samper Brush, founder of the Columbia Red Cross in Bogota in 1902.

Cuba—A 1c postal stamp tax (on November 1) to help in anti-tuberculosis work.

Czechoslovakia—Stamps showing views of four spas—Karlsbad, Marienbad, Piestany and High Tatra.

Dominican Republic—A 1c antituberculosis postal stamp tax, with the lettering B.C.G.

Guatemala—A 9-value set for the Red Cross. Six different designs include an ambulance, nurse, hospital and Red Cross.

Jugoslavia—A 2d postal tax stamp for the benefit of the Red Cross, required on all letters, May 6 to 12.

New Zealand—The 1956 issue of Health Stamps consists of three denominations with surcharges of 1/2d or ld being used to finance children's health camps. The design shows one child handing an apple to another child—on the theory, perhaps, that an apple a day keeps the doctor away?

Philippines—5c and 20c stamps commemorating the 50th anniversary of the Red Cross, picturing a nurse comforting victims of a disaster.

Russia—Two stamps for the Red Cross Society of Russia which was created during the Crimean War under the leadership of the Russian surgeon, N. I. Pirogoff. A 40k shows pupils being taught principles of sanitation; a 1 ruble shows a nurse and workroom in a textile family. A Russian inscription says: "Safeguard the working masses' health."

Turkey—A 40k stamp plus 10k stamp picturing the Erenkoy Sanatorium; a 25k stamp for the anti-alcoholic movement; a 60k stamp (in November) for the 75th anniversary of the founding of the Medical Faculty of Anatolia.

Eleven postal authorities in 1955 issued 34 Red Cross stamps, according to the Red Cross World. Since 1889, when the first Red Cross stamp was issued, 1,420 Red Cross varieties have been put out by 127 postal administrations. France leads with 172 stamps. Other important issuers are: Portugal, 166; Spain, 147; Turkey, 101; British commonwealth countries, 90, and Finland, 82. China and Netherlands New Guinea issued their first Red Cross stamps last year.

‹‹‹ ›››

MEDICAL ECONOMICS

John R. Wolff, Chairman, Walter C. Bornemeier, Edward W. Cannady, Roland R. Cross, Jr., E. F. Dietrich, W. W. Fullerton, Edwin F. Hirsch, Frederic T. Jung, W. R. Malony, Caesar Portes, William Requarth, Frederick W. Slobe.

Private Practice

JOHN R. WOLFF, MD., CHICAGO

PREVIOUS articles in this Medical Economics section have discussed some of the opportunities available to the young medical school graduate in various fields. Anesthesiology, pathology, public health, obstetrics, general practice, and others have been presented. But what about private practice per se? What are the opportunities? What is the best method to establish and mold a practice? What are the rewards compared to other fields?

Fifty years ago the entrance into the actual practice of medicine was a relatively simple, painless economic phenomenon. Young Doc, armed with his medical school diploma and his state license, merely found a community to his liking, set up an office, hung out his shingle, opened the door, and started in business. At first he did not fare too well. But being a youth of twenty-one or twenty-two, he could stand hunger. Yet he soon found himself getting too busy to give his growing moustache its necessary care. He began to work longer hours, to eat better, save a little money, and become a part of his community. Soon he became "Old Doc," cursed at by a few, loved by many, and respected by all. Practically every embryonic physician followed this pattern.

But what about today's young graduate? Well, by the time he is ready to make the important decision concerning his medical economic life, he cannot truly be called a "young Doc." His years of undergraduate work, medical school, internship, residency training and military service bring him up to the thirties in age. By this time, he has usually acquired a wife and at least two children.

Is today's "young Doc" prepared to enter private practice? Educationally and medical speaking, he certainly is much better equipped than was his father. But this is not so from the psychological viewpoint. The temptations and illusory security of other opportune medical situations are too great. The trap of fame and fortune by association is subtle and strong. After all his years of apparent economic security wrought by hospital and military salaries, a hard working, ever-loving wife and some understanding relatives, is he ready to meet the challenge of starting on his own? His present standard of living, plus the natural desires of his family, tend to lead him in other directions.

With so many paths available to "young Doc," he must be cautious not to be tempted by the smoothly paved road under his feet, but he must study the road maps and observe the terrain in the distance. This proximate decision as to his future medical life is a most important one. It should be made only after careful thought and an honest search into his likes and dislikes, am-

bitions, needs, and, of course, with a long view toward the future.

By this time one has made the decision whether to engage in research, teaching, the pre-clinical sciences or some adjuvant phase of medicine, such as the insurance field, medical organizational work or the like, on a full time basis. These words are not intended for such individuals, but rather for the man or woman who wishes to be a doctor Catering to the ills of mankind. Although he may and often does devote a portion of his time to other activities, his major medical economic action will be directed toward developing his practice.

The first trap awaiting him is the desire to become associated with an established individual. In the old days an assistantship to a renowned man was a sought after prize, so that one could obtain training and clinical experience with a master. Today's residency training has obilterated the necessity for this academic association. Today this desire stems from the search for financial security. A steady income, the hope that it will increase, the entrance into an existing going practice, and the possibility that some day the beginner will succeed the old-timer are strong attractions. Anyone who has surveyed the scene for a number of years realizes the futility of such a venture. The successes are too few, the failures are too many. The "young Doc" immediately becomes an assistant. He may be called an "associate" or "partner," but he still remains an assistant. If he has a will of his own and possesses a normal desire to stand on his own feet, the association may last from two to five years at the most. The divorce is usually a painful one to both members and leads to many tragedies, usually to the detriment of the younger man. Should the association persist, the junior man's personality invariably deteriorates to that of a pipsqueak. You, of course, may prefer this anonymity of medical existence. So be it. But if you do have red blood in your veins, investigate all the partnerships and such associations before starting yours. Don't just glimpse at the rare successful ones. Study the failures and study the personalities of the men who remain lifelong assistants.

Another trap is that of group practice. This is an extremely appealing situation to the young specialist. He sees an opportunity to cash in on his residency training at once. He can enter an established group. Medical activity awaits him. A pleasant association with other physicians is intriguing and, of course, a steady income will be his. He also sees a rosy future with a chance to become a junior member of the group, later a stockholder, and eventually, an executive position in his old age. Such opportunities do exist, but in the vast majority of cases, he just has a job. As such, he is at the mercy of his employers. Everything is fine until the day comes when his wife has a heart to heart talk with him and points out the disparity between his value to the group and his relative compensation. The end soon arrives. Too often the "olding" youngster is out on his own again. Before entering into any type of group practice, legal advice is essential. And so is a thorough discussion with all members of the group, both present and past. Unless you can find utopian individuals in a utopian group, beware!

What about partnerships? Many successful ones exist. Analysis of such associations shows that their success is due to two or more successful individuals joining together. They invariably have busy established practices. The association is most often made so that each man can conserve leisure time without neglecting or losing patients. The pooling of overhead expenses is another important value. In one way, a partnership assures an excellence of care to patients in the absence of a selected physician. But such a partnership is for the older busy individual. Two youngsters may start out this way, but one must remember that two times zero still equals one times zero.

Today it seems that every physician finds some kind of part time employment to help him while his practice is developing. Public health positions, industrial medicine, teaching, research, and various health agencies offer these opportunities. They certainly are necesary in answering the need for immediate income. The only danger is in losing the long view and letting these positions dominate one's thinking. Private practice must always come first. As this develops, jobs should be dropped. Otherwise the physician will only be half his own master.

What then about private practice? The great economic and psychological values of private practice lie in its true security. Although no physician owns patients or in a sense can say

that such and such a person is "his" patient, it is true that when an individual becomes ill, he immediately thinks of one doctor above all others. This doctor is his physician and he will call him for advice. The general practitioner as a family doctor sees this every day. Such a relationship is the foundation of his practice. By practicing good medicine and giving service to those who seek him, he will build up a group of patients who always think of him as their doctor. When this group enlarges to a goodly number, his security is ascertained. An investment counselor might call this "true diversification." While some patients may find fault or lose confidence and change doctors, the majority tend to stick, and new patients become attracted too. The only way to develop such a practice is to go to work and do it. Opening an office, getting known to one and all as a physician, and giving excellent service when called is the only method. Yes, it is a slow process, but eventual success is there. A quicker road today is to go to a community needing a doctor. Such a choice should be tempered by the physician's wants and needs in life outside of medicine. His family's desires should also be given equal consideration.

Where does the young specialist fit into this? If he is a super-specialist, such as a cardiac surgeon, chest surgeon, neurosurgeon or roentgenologist, that is, one trained and experienced in a detailed technical branch of medicine, he must perforce become a doctor's doctor. His practice will be referrals from other physicians. His opportunities are presented by physician-hospital associations, medical organizations and the like. The large teaching centers are for him.

But what about the pediatrician, obstetrician-gynecologist, internist, general surgeon, and so on? If he prefers, he can act as his superspecialist friend and await referrals from doctors. However, this preference shows somewhat immature wishful thinking. Some communities may be in actual need of a surgeon or pediatrician. But today such specialists are usually not too rare in any population center. With the ease of travel that we now have, the well known old-timer is too readily available. It has been said that the general surgeon is a general practitioner who operates, the internist is a general practitioner who does not operate, the pediatrician a general practitioner for babies, and the obstetrician-gynecologist is a general practitioner for women. Such remarks bear more truth than jest.

The young surgeon who feels that he has the answer to all surgical problems falls into a serious trap by hoping to await doctor referrals and just operate. His referring friends may have a change of heart, they may revert to older surgeons because of confidence from previous associations, or they may become attracted to other young surgeons. The security of depending on such contacts is too tenuous and dangerous. For eventual independence, the young surgeon must develop his own patients. These people will think of him as a doctor who caters to their everyday health problems, refers them to specialist friends as needed, and who undertakes their surgery when the demand arises. This same philosophy of practice applies to the other type specialists as well.

You may feel that this suggested method of developing one's own practice regardless of type of specialty is not necessary or even desirable. One can mention many economically successful physicians, especially in the larger centers, who did not follow this pattern. That is true. Many first made their reputation through research and teaching. Then by means of a hospital appointment they went right to the top. But how many have this opportunity? And can't you think of a few who have suddenly been dropped from their lucrative post for some reason or other? Then what? And can't you think of individuals who became divorced from their hospitals, or made a change, again for some reason or other, and noted how their patients followed them and stayed with them?

The general practitioner will not like this suggestion that the specialist should develop this type of practice. There is no answer other than to encourage the general practitioner to give better service and better medical care than anyone else, and to be more generous in his consultation demands so as to encourage a greater friendly relationship with the specialists.

What about the Boards? Certainly they demand that the gynecologist not take care of infants or men. They demand that he not perform general surgical procedures, orthopedics, urology, or the like. But they do expect him to use common sense. The gynecologist must be able to

give advice for the treatment of a back strain (pelvic organs normal), to treat an acute cystitis, advise as to the care of minor rectal problems, or treat his patient's cold or sudden gastrointestinal indiscretion. In other words, our young specialist must remember that he is a doctor first, and then a specialist.

The results of developing a large group of people who come to you for medical advice, regardless of your specialty, is a true form of economic security. These patients are concerned only with your service and your ability to get them well, and keep them well, be it in your hands or those of a referred physician. The majority tend to stay with you. You are their doctor. As this number grows and comes from many segments of society, the many social groups and the many unrelated friendly groups, your security is assured. Unless you become woefully inept, ill, or mentally unsound, your reputation among the public will grow and thrive, as will your practice. Such a practice shows a slow growth pattern, then a mushrooming effect, and finally a plateau of economic stability.

There are two more important, yea extremely important, points in the maintenance of your established practice: 1. Your health! A healthy attitude toward life, a respect for the worship of God, and proper moments of relaxation and planned vacations. 2. Your medical education! As you know, this is a never ending process. A study of the latest advances and the pooling of your knowledge with others as demonstrated at medical, scientific, and organizational meetings are a must.

Finally, the satisfaction that comes with a large practice is not just that of economic security, but the joy of having a patient say "Thanks, Doc.!" With this comes the realization blessed is mere man to be able to help in the work of God, be it ever so humble.

‹‹‹ ›››

D.E.F.G.H.—

In the adult, environmental conflicts are potent sources of anxiety. Tredgold lists the stresses that produce anxiety in the mnemonic sequence of D, E, F, G, H, which represent domestic, employment, financial, group reactions, health, and housing factors. Regardless of the source of anxiety, the individual automatically seeks to escape the discomfort. If a serious conflict situation cannot be solved by constructive action, one of the so-called mental mechanisms may be employed. The more common ones include compensation, denial, displacement, fantasy, identification, projection, reaction formation, and substitution. The use of such mechanisms represents compromise and a certain amount of compromise is normal and universal. Abnormal dependence upon these defenses, however, not only alters the behavior patterns but produces dysfunctions which eventuate in disease. Although the process is not fully understood, some individuals can convert anxiety into a somatic symptom and, eventually, into functional disease. In contrast, a more serious defensive reaction is withdrawal into a fantasy life which, although it relieves anxiety, may cause the person to become schizophrenic. All of these methods of solving conflicts are negative and result in failure and abnormal or neurotic anxiety. *Anxiety. Psychiat. Bull. Summer,* 1956.

THE P. R. PAGE

Edward A. Uzemack, Director of Public Relations

Many favorable reports have been received on the first Legislative and Public Relations meeting held by the Committee on Medical Service and Public Relations, August 29 at the Hotel Sherman in Chicago.

Fifty chairmen of county society legislative and public relations committees attended the afternoon and evening sessions. A report of the meeting is published elsewhere in this issue of the Journal.

Among the comments on the meeting were expressions of hope that a similar program will be arranged for 1957, but at a different time of the year. An indication also was received that the American Medical Association's Law Department may cooperate with other state societies in arranging similar programs in lieu of the regional legislative meetings held in the past. If this is done it will mark another memorable "first" for the Illinois State Medical Society.

Probably the most flattering comment received on the Legislative-PR meeting was that the subject matter was "down to earth and very useful" to those who attended. This compliment was supported during the question and answer period which followed the afternoon talks. Scheduled for one hour, the period extended well beyond that time limit and had to be cut off because it threatened to run over into the dinner meeting. The sesion was jampacked with provocative questions and the panel of speakers seemed to have most of the answers.

Dr. Harlan English, 8th District Councilor and member of the A. M. A.'s Committee on Legislation, and Dr. Percy E. Hopkins, chairman of the Illinois State Medical Society's Committee on Medical Service and Public Relations, deserve much credit for the interesting pace they set for the meeting. Dr. English was program chairman and Dr. Hopkins served as toastmaster at the dinner session.

A transcript of the proceedings will be made available to the membership in the near future.

One of the most interesting phases of the program was an after-dinner address by Mr. John L. Bach, press relations director of the A. M. A. His subject was, "Who Is Going to Bell The Cat?" The following is a condensed version of his talk:

BACK in our school days we were all acquainted with the ancient writings of a Greek named Aesop. He had a shrewd, analytical wit that was deceived neither by cant nor pious poses of righteousness.

The moral to one of his fables applies, in my opinion, to one of the key problems that exist in the relationship between physicians and medical science writers.

The Aesop fable concerns the Mice who were desperate because the Cat caught one or two of them every night. So they called a Council to decide how best to put an end to their troubles. Many plans were suggested and discarded; but

at last a smart young Mouse spoke up and said: Why not put a bell on the Cat, so that we can hear her coming? Everyone thought that this was really a fine idea, and a vote was about to be taken, when a shrewd old Mouse, who had kept quiet up till then, remarked: This is a perfect solution, but I have one little question I should like to ask: Who is going to bell the Cat?

And the moral is: It is one thing to make great plans; and another to carry them out.

I am referring to the countless letters which we receive from physicians who stress the evils of premature medical publicity and strongly urge that something be done to prevent science reporters from writing about medical remedies and discoveries before they have withstood the long, grueling tests of clinical research. Physicians would like to see some sound method for evaluating drugs before they are announced to the public. While there are many complaints on this score, no one to my knowledge has yet come up with a practical way for solving this problem.

How is any such plan going to be policed? How can you devise a plan that does not smack of censorship? How can you control in any way the day-to-day working assignments of at least 200 medical science writers throughout the country, not counting those who devote only part of their writing time to science? Who is going to take the initiative in instituting such a so-called governing agency—the medical profession, the medical school, the pharmaceutical industry, the research laboratory, or God forbid, the government? All of these groups, and many more, are involved directly, but who, I ask, is going to bell the Cat?

It is naive to believe that all of the firms manufacturing drugs can guard the secrets of their unproved theories. It is naive, too, to believe that they can do away completely with enthusiasm and optimism for any piece of particular research. It is naive to believe that all professional men—physicians, physicists, chemists, pathologists and other laboratory specialists—can keep their "miracles" under wraps for the long period of time which is usually required in any kind of drug research.

So again, I ask: Who is going to bell the Cat?

Confidence is often built up in ridiculous assertions through the power of the printed word. People generally believe that if they see something in print about a new drug or a new cure, it must be true. But that feeling is changing. There have been many false alarms, and the public is beginning to tire of reading about unfounded and unproved scientific claims.

The full-time medical science writer is gradually becoming aware of this. As proof, let me cite this example:

A few weeks ago we analyzed five newspaper stories reporting a new anti-diabetic drug. In the eyes of most physicians, all of these stories would fall into the classification of "premature publicity." Yet, all five pointed strongly to the fact that the drug is still in the experimental stage, and every one warned against "undue optimism."

As Steven M. Spencer of the Post once said: "No informed person expects science to move forward at a steady, unchanging pace. It is inevitable that medicine may occasionally take three steps upward and then find it must back down one step to secure a firmer foothold—but it has made a net gain of two steps. Surely the public is entitled to witness this progress, no matter how irregular and interrupted it may be."

I would like to switch now to the biggest single gripe which medical science writers hold against the medical profession. It concerns the use of physicians' names in medical articles appearing in newspapers and magazines.

We must be guided on this point by the Principles of Medical Ethics of the American Medical Association, which has been revised, or you might say liberalized, twice in the last six years.

Section five of the Principles does not touch specifically on the use of doctors' names in any media of public information. The Principles as applied on this score urges the physician to "seek the guidance of appropriate officials and designated spokesmen of component or constituent medical societies."

What, then, is the crux of this problem—with the writers pulling one way and the medical profession the other?

The answer is simple—there is no unanimity of opinion within the medical profession itself on the use of doctors' names in non-professional publications. Lake County, Indiana, may permit use of doctors' names, while Lake County, Illinois, does not. That situation exists all over the country, and it is difficult for the medical science writer to understand why one county

medical society permits use of names and another medical society does not; it is difficult for him to understand that, from an ethical standpoint, the matter rests entirely at the local level. The writers feel that ethical rules or opinions should be universal, not local.

Let me cite one example of why medical science writers are confused on this issue:

Several weeks ago, the Saturday Evening Post purchased a story from a free-lance writer, who told a dramatic story of how a team of 52 people at a hospital in an eastern state saved the life of a truck driver, virtually given up for dead after a highway accident. When the writer did his research on the story, it was agreed by all parties concerned that the real names of the six physicians involved would NOT be used. Fictitious names were substituted. However, the Post editors liked the story so well, they dispatched a photographer to the hospital and, luckily, he obtained all 52 people of the team in one picture. The 52 were assembled on the hospital steps and lawn. When the picture was to be tied up with the story, just before the magazine's deadline, the editors decided that the story itself had to carry the true names of the physicians involved. They reasoned that if they published a blowup of the picture and then carried fictitious names of the physicians in the text of the story, their readers, especially in the wide area where the hospital was located, would be confused. They felt, too, that if they carried out such a plan, the magazine actually would be performing a disservice and betrayal to its readers.

The Post editors contacted the county medical society officers. There was a long and serious wrangle about the use of the doctors' names in the story. The editors appealed to the A. M. A. for help, but there was nothing the A. M. A. could do since the decision itself had to be made at the local level; not the national level.

The end result was that the local medical society refused to approve the use of the doctors' names even though many of the officers freely admitted that the story was good for medicine and for the profession and that the story would do a good public relations job for both since the Post has a readership estimated at 16 million people.

The local medical society, even though it held a special meeting on the matter, based its action on the fact that the society's by-laws did NOT permit use of doctors' names. To change the by-laws would have required 90 days—much too long for the magazine to wait or hold its story.

The strained relationship between the medical society and the magazine was not good for medicine, of course. The result: the magazine paid off the writer for the work he had done, and junked the story . . . . a story which everyone admitted would have been GOOD for medicine.

My advice to you as chairmen of public relations committees of county medical societies is: check your by-laws on the use of doctors' names in newspaper and magazine articles. Ask yourselves: Are any of the by-law provisions on this point antiquated? Is my county medical society prepared to tackle such a problem, logically and fairly, if it ever comes up? Does my county medical society have a committee that is empowered to take appropriate and official action?

We must remember that all newspaper and magazine writers and editors believe that they can report newsworthy achievements of scientists with extreme care. A recent A. M. A. study shows some strong evidence to support this feeling. During 1955, magazines with a circulation in excess of one million published 320 articles dealing with medicine or the medical profession. A checkup shows that only 10 of these could be classified as bad or harmful. This means that 97 magazines last year were good for medicine and the profession.

The National Association of Science Writers, representing the "cream of the crop" in the medical science writing field today, has more than 200 members. Most of them are full-time science writers and many specialize in writing medical science exclusively.

These writers and their type of stories are here to stay—you can bet on that. More can be gained by working with them than against them. All of them carry a heavily-loaded gun, and they can fire it to mold public opinion for good OR bad.

It may be wiser and more fruitful to forget about ways to bell the Cat, and work more closely with the men and women who write about us. Learn to know them better. Let men of good will and good reasoning within the profession help to clear the obstacles from the path of medical communication. It will help medicine, and it will help the profession. That is our goal!

CORRESPONDENCE

Clinics for crippled children listed for November

Twenty six clinics for Illinois' physically handicapped children have been scheduled for November by the University of Illinois Division of Services for Crippled Children. The Division will count 21 general clinics providing diagnostic orthopedic, pediatric, speech and hearing examination along with medical, social and nursing service. There will be three special clinics for children with cardiac conditions, one for children with rheumatic fever and one for cerebral palsied children.

Clinics are held by the Division in cooperation with local medical and health organizations, both public and private. Clinicians are selected among private physicians who are certified Board members. Any private physician may refer to or bring to a convenient clinic any child or children for whom he may want examination or may want to receive consultative services.

The November clinics are:

November 6 - Alton, Alton Memorial Hospital

November 6 - Casey, Casey High School

November 6 - Macomb, Marietta Phelps Hospital

November 7 - Hinsdale, Hinsdale Sanitarium

November 8 - Elmhurst Cardiac, Memorial Hospital of DuPage County

November 8 - Springfield, St. John's Hospital

November 8 - Sterling, Field House

November 8 - Watseka, American Legion Hall

November 9 - Chicago Heights Cardiac, St. James Hospital

November 13 - E. St. Louis, St. Mary's Hospital

November 13 - Peoria, Children's Hospital

November 13 - Shelbyville, Methodist Church

November 14 - Joliet, Will County T. B. Sanitarium

November 14 - Pittsfield, Illini Hospital

November 15 - DuQuoin, Marshall-Browning Hospital

November 15 - Litchfield, Madison Park School

November 15 - Rockford, St. Anthony's Hospital

November 16 - Evanston, St. Francis Hospital

November 20 - Fairfield, Fairfield Memorial

November 21 - Evergreen Park Little Company of Mary Hospital

November 27 - Effingham (Rheumatic Fever), St. Anthony's Hospital

November 27 - Peoria, Children's Hospital

November 28 - Aurora, Copley Memorial Hospital

November 28 - Springfield (Cerebral Palsy), Memorial Hospital

November 29 - Decatur, Decatur Macon Hospital

November 30 - Chicago Heights Cardiac, St. James Hospital

A memo for you, doctor

If you're a typical doctor—you don't take advice from a woman. Nevertheless, a woman given the chance to speak, never refuses!

In Illinois 8,500 women care more for their husbands and their husbands' profession than do any other persons. Can 8,500 women do something for medicine in Illinois? Can we vote in November and see that our friends do, also? Can each reflect in her personal life, in everything she does—a trip to the grocer's, participation in the P. T. A., in the social atmosphere of the bridge club, through conversation with a neighbor—the devotion and care you exemplify in the practice of medicine? I think we can—if you want us to.

Not all of these 8,500 women are members of the Auxiliary, and membership in the Auxiliary isn't a necessary prerequisite. But in this day, when the impact of group activity is clearly demonstrated, shouldn't we use the strength of organized numbers, small indeed considering the job to be done?

May we help you by absorbing some of the responsibilities in community life which you are too busy to assume?

Only you can give us the facts and point the way. We want everyone to know the truth about you, your goodness, your sacrificies, your integrity; and finally, to realize the advantages that can be achieved only through "free medicine."

Doctor, the Auxiliary offers its service.

Mrs. Robert E. Dunlevy, President
Woman's Auxiliary to the I.S.M.S.

‹ ›

The American fracture association annual meeting

The annual meeting and postgraduate course conducted by the American Fracture Association will be held at the Drake Hotel, Chicago, November 28—December 1, 1956. On the first day, Wednesday, there will be a postgraduate fracture course at Cook County Hospital and the Drake Hotel. Details will be worked out and scheduled in the official program to be released soon.

For the next three days, the programs will be presented at the Drake Hotel and will cover the field of fractures, with the several types of treatment. An interesting program is being arranged which will be of interest to members of the American Fracture Association as well as others who treat fractures.

Complete information and the official program may be procured by writing to Dr. H. W. Wellmerling, Secretary, American Fracture Association, Bloomington, Illinois.

‹ ›

Have you asked your wife?

SOCIALIZATION OR ORGANIZATION
Which will it be?

Lethargy, long the arch enemy of organized medicine, has struck effectively once more. Cradled in the arms of Morpheus we enjoy a false security. What will it be, Doctors, a sound *organization,* or eventual *socialization?*

Have *you* asked your wife to join in the activities of the Medical Auxiliary? More than two thirds of the medical society must answer *NO!* On the surface it appears to be innocuous. On the contrary, could your Society exist with less than one-third of its potential strength realized? The obvious answer, of course, is that only in numbers is there strength. And the answer to the crucial problem of membership in the medical auxiliary lies with you.

Before taking up the accomplishments of the auxiliary, a few facts should be bared. The Illinois State Medical Society is at the highest level, (second only to New York) for membership in the compilation of statistics by the A.M.A. Yet, the Woman's Auxiliary to the Illinois State Medical Society ranks fiftieth on the national level. WHY? If each doctor in Illinois took his responsibility as a member of organized medicine seriously, he would realize the importance of his wife's membership in the auxiliary, and in so doing, our potential would be realized. You, Doctor, are the reason Illinois is not able to proudly demonstrate the excellence of her auxiliary, and utilize all her talents, which are so sorely needed in legislation, public relations, nurse recruitment, to mention only a few.

There exists a number of hypothetical questions. For instance, if my wife is unable to be active, i.e., incapacitated, small children, etc., what worth has her membership to the auxiliary? Answer: Your wife's dues are divided in such a manner that a portion is contributed to our State Benevolence Fund, and the remaining amount will help to support her county, state,

and national auxiliary. It is interesting to note that in some areas, the auxiliary dues represent one twentieth of the amount paid by a member of the Society per se.

The second part of the above question is more revealing. As a member, even though non-functioning, information is sent to her, and if digested, she will become a far more informed doctor's wife than from other attempts to impart medical information.

WHAT A GOOD MEMBER CONSISTS OF

First let us presume that having resolved to marry a humanitarian, every doctor's wife in this state would understand that her obligation is to uphold, in every manner of speaking, the dignity and magnanimousness of her husband's chosen profession. Just as it remains the sacred calling for the physician, so should it remain for the woman chosen to go along this sacrificial path of life. And just as it is the doctor's moral obligation to join the society designed specifically for him, so is it, that the membership has been exclusively originated for his wife.

Further presuming that the doctor's wife is fully aware of the honor that is hers, as a member of the medical auxiliary, she will give of herself in any way that it is feasible. She will consider the auxiliary before any other form of organization within her community, and not place it in competition with others. She will realize that the hours spent in hospital service are but a part of her membership in the medical auxiliary. She will cherish her role of keeping medicine free from the ties that will ultimately inhibit and restrict it as a whole.

HOW?

The very fact that you are a doctor's wife makes you different. Your role as a public relation's expert is far-reaching in every respect. And your contacts in organized medical auxiliary, schools you to that effect.

As a member of the auxiliary, your role will be to assist, wherever needed in important legislation. If you are a member of an organized county, your local legislative chairman will inform you of the work that is to be accomplished. Should you be a member at large, your chairman will keep you abreast of such pertinent information. You will be privileged to keep the eighty one medical schools in the United States free from government controls by aiding in the American Medical Education Fund, and its extensive campaign. Further, as a member, you can participate in the nurse recruitment programs, designed to further the education and welfare of our future nurses in America. And as a member of the Illinois medical auxiliary, you will be interested in being a contributor to benevolence. This fund artfully and anonymously assists physicians and their families who are no longer in a position to help themselves.

DO IT NOW

If your wife *is* a member of the auxiliary, encourage her, and be proud that you are a team. If your wife is not an Auxiliary member, ask her to join you in membership today.

It is up to the doctors in Illinois to change the picture of organization in the woman's auxiliary. With just one word of encouragement, your wife will become a member. With just one word of encouragement, another county medical auxiliary can be formed. And with a few words of praise, we as an auxiliary, will rise to new heights and accomplishments that will reflect on the profession of which we are so proud. Shall we then resolve the problem of lethargy. *Which Will It Be: Socialization or Organization?*

For further information—Contact Organization Chairman/or your local Medical Society.

Mrs. Nicholas G. Chester
Organization Chairman
910 Park Avenue, River Forest, Illinois.

AT THE EDITOR'S DESK

Dr. Alan E. Fisher, of the University of Wisconsin, was experimenting with animals to determine what type of brain stimulation causes certain behavior patterns. By injecting a male hormone into one part of the brain, male rats were driven to compulsive maternal behavior; when the same hormone was introduced into another area the sexual drive was altered. Then he stimulated both the maternal and sexual drives simultaneously in one animal. What happened? A crazy, mixed-up rat. It attempted to mate with a female not in heat, while carrying a newborn rat pup in its mouth. The rodent could not resist the temptation to mate even though its newly acquired maternal instinct had forced it to retrieve the wandering pup.

Your editors are looking forward to a new book on a low fat diet by Dr. and Mrs. Eugene A. Stead, of Duke University School of Medicine. The average American diet obtains 45 per cent of its total calories from fat. The Stead diet contains two-thirds less fat and reduces the caloric intake while preserving the fun of eating. The book outlines foods of low fat content and suggests ways of preparing them. For example, stew may be cooked partially, then refrigerated; before the final cooking the congealed fat on the surface is removed. There are white sauces without butter, French dressing and mayonnaise without oil, and whipped cream from skim milk.

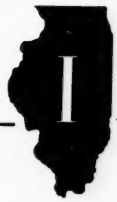
"Step Lively . . . and Lose Weight" is a new leaflet on low calorie meal patterns that may be obtained from the American Dietetic Association. It is priced at 3c per copy or $2.00 per 100 lot orders.

Meat from stilbestrol-treated cattle is safe for human consumption, according to the U. S. Department of Agriculture. The hormone increases the rate and economy of gain in beef cattle without destroying the meat taste. Samples of meat from treated cattle showed no detectable amount of hormone, even though the cattle had been given larger doses of stilbestrol than permitted in commercial feeding.

One of the latest types of "falsies" is filled with birdseed; it was designed as a prosthesis to be used after mastectomy. A testimonial in its favor appeared in the June 9 issue of the British Medical Journal: "At long last we have found a substitute for the original which has adequate weight, natural shape, and authentic consistency. Furthermore, it neither rattles, leaks, nor sprouts . . . . My children no longer say, 'Mummy, your chesty has slipped.'"

News releases. Bonadoxin prevented morning sickness in 61 out of 65 pregnant women and one husband. Metamine Sustained provides oversimplified, enduring protection from angina pectoris. Radioactive gold is reported to be of value in cancer of the prostate. Cycloserine is available for the tubercular patient who fails to respond to all other therapeutic agents. The antibiotic is made by Lilly and by Pfizer and has helped some severe, resistant cases. It is not the agent of choice, however, because reactions such as convulsive seizures and mental disturbances occur in 8 per cent of the patients.

NEWS of the STATE



COOK

Personal.—Dr. Edward L. Compere, professor of bone and joint surgery, Northwestern University Medical School, was named president-elect of the American Section of the International College of Surgeons, September 9.

Award Goes to J. Garrott Allen.—The John Elliott Award of the American Association of Blood Banks has been presented to Dr. J. Garrott Allen, professor of surgery at the University of Chicago School of Medicine, for his research demonstrating that infectious hepatitis cannot be transmitted by liquid blood plasma which is stored at warm room temperatures for six months or longer. Dr. Allen's studies, begun twelve years ago, have shown that the virus of infectious hepatitis is killed by plasma storage at temperatures in the range of about 90 degrees Farenheit. Until Dr. Allen's work, plasma was generally stored either dried or under refrigeration, in the belief that otherwise it would deteriorate. The hepatitis virus remained active under these conditions, with 10 to 25 per cent of patients transfused with the plasma developing hepatitis. The threat of hepatitis had caused the abandonment of plasma transfusion.

The citation of the award reads "For orginal observations and clinical investigation which have established the safety of plasma stored at room temperatures insofar as the virus of serum hepatitis is concerned, thereby stimulating a revival of interest in the use of plasma as the preferred blood substitute and returning plasma to its appropriate place in hemotherapy."

Pusey Memorial Lecture.—Frederic E. Mohs, associate professor of chemosurgery, University of Wisconsin Medical School and director of the Chemosurgery Clinic, University Hospitals, Madison gave the tenth William Allen Pusey Memorial Lecture of the Institute of Medicine of Chicago at a meeting with the Chicago Dermatologic Society, September 20. His subject was "The Chemosurgical Method for the Microscopically Controlled Excision of External Cancer."

Lighthouse for the Blind Observes Fiftieth Anniversary.—"Changing Concepts of Rehabilitation—1956" formed the theme of a symposium commemorating the Golden Anniversary of the Chicago Lighthouse for the Blind, September 19. Speakers were from the field of business and industry: Mr. W. W. Tudor, vice president, Personnel & Employee Relations, Sears, Roebuck and Company, Chicago; from the field of medicine, Dr. Henry H. Kessler, the Kessler Institute, West Orange, New Jersey; from the field of welfare agencies, Mr. Samuel A. Goldsmith, executive director, the Jewish Federation of Chicago.

Assistant Health Commissioner Named.—Dr. Samuel L. Andelman, since 1952 director of the southern region of the Illinois Department of Public Health with offices in Carbondale, has been named assistant health commissioner of the Chicago Department of Health, effective September 4.

Appointments at Northwestern.—New appointments as assistant professors at Northwestern University Medical School are Drs. Zachary Felsher in dermatology; Frank Fara, in obstetrics and gynecology, and Harold Koenig, in neurology and psychiatry. The appointments were effective September 1.

The Hamburger Lecture.—Lewis Dexter of the Peter Bent Brigham Hospital, Boston, will present the Sixth Walter Wile Hamburger Memorial Lecture of the Institute of Medicine of Chicago, October 22, before a joint meeting of the Institute, the Chicago Society of Internal Medicine and the Chicago Heart Association. His subject will be "Valvular Regurgitation."

Specialty Society Election.—Dr. Norman J. Ehrlich was recently chosen president-elect of the Chicago Society of Allergy, and Dr. Helen C. Hayden was inducted into the presidency. Dr. Harold

C. Wagner, 104 South Michigan Avenue, Chicago 3, was named secretary-treasurer.

Columbus Hospital's New Unit Under Way.—Ground breaking ceremonies were held, August 14, for the construction of a million dollar six story addition to Columbus Hospital. The new unit, to be known as the Mother Antonietta Della Casa Research Center, will contain facilities for tumor treatment using cobalt in addition to x-ray therapy, medical research laboratories, additional operating rooms, the pediatric department, and beds for eighty-one patients. Construction will take about eighteen months. Mother Della Casa, for whom the addition will be named, is a former mother general of the Order of Missionary Sisters of the Sacred Heart which operates the hospital.

Society News.—Dr. Edmund Jacobson, Director of the Laboratory for Clinical Physiology, Chicago, delivered a paper in Brussels, August 2, at the International Physiological Congress, outlining the Physiological Basis for Psychiatry, including an objective and scientific evaluation of the state of the patient before, during and after any form of therapy, and describing new instruments for the electrical measurement of neuropsychiatric states.

LAKE

Personal.—The transfer of Franklyn Newmark from the Lake-Sanders Country Medical Society, Montana, to the Lake Country Medical Society has been approved.

LOGAN

Society News.—F. Garm Norbury, Jacksonville, Past President of the Illinois State Medical Society, addressed the Logan Country Health Improvement Association, August 30, on "Mental Health."

MADISON

Society News.—"The Medical Profession's Business Relations" was the title of a paper presented by Dr. Robert Anschuetz, President of the Madison County Medical Society, before the society's September 6 meeting at the Madison County Sanitarium, Edwardsville.

WINNEBAGO

Postgraduate Course.—The Illinois Academy of General Practice opened a postgraduate course in Rockford, September 27, which will continue through November 8. Another course will be held April 1 through May 10, 1957. The courses, which consist of two-hour sessions at weekly intervals, will be held in the Headquarters of the Winnebago County Medical Society, 310 North Wyman Street, 7:30 p.m. to 9:30 p.m. The subjects covered will be The Millenium in Obstetrics; Modern Concepts of Infectious Disease in Infants and Children; Emergency Room, and Hematologic Problems in Everyday Practice.

Participants in the courses are Drs. A. F. Lash, professor of obstetrics and gynecology, University of Illinois College of Medicine; Joseph R. Christian, associate professor of pediatrics, Stritch School of Medicine of Loyola University; Aaron Grossman, associate professor of pediatrics, Chicago Medical School; Harry A. Oberhelman, professor of surgery and head of the department at Stritch, and Steven O. Schwartz, associate professor of medicine, Northwestern University Medical School.

ST. CLAIR

Society News.—Dr. Charles Doyle addressed the St. Clair County Medical Society, September 6, at the K. of C. Club, East Louis, on "Post-Phlebitic Syndrome."

New Rehabilitation Center.—St. Elizabeth's Hospital, Belleville, has opened a newly organized Rehabilitation Center for the treatment of the ill and disabled. It is to serve hospital patients, residents of the Home for the Aged and outpatients, according to the Bulletin of the St. Clair County Medical Society. The department is equipped to treat patients with heat in various forms, ultra sound, electrical stimulation, whirlpool, neck traction and exercises of various types including progessive resistance, parallel bars, shoulder wheel, mat work, and activities of daily living. A registered and licensed therapist is in charge. Method of referral is by written prescription. Hours in the department are from 8 a.m. to 4:30 p.m. Monday through Friday. Patients should ask for appointments.

SANGAMON

Fifty Year Club Members.—Drs. Robert Flentje and C. R. Driskell were inducted into the Fifty Year Club of the Illinois State Medical Society at a meeting of the Sangamon County Medical Society, September 6. Presentation of the certificate and gold pin, emblematic of the club membership, was made by Dr. Jacob E. Reisch, Councilor of the Fifth District. Dr. Ralph E. Dolkart, assistant professor of medicine, Northwestern University Medical School, spoke at the meeting on "Principles of Use of Adrenal Hormones."

New Officers.—Dr. Jacob E. Reisch was named president of the Sangamon County Medical Society, June 3; Dr. W. P. Armstrong, vice president, and Dr. William DeHollander, secretary-treasurer. Drs. Frank M. Davis and Kenneth Schnepp were named to the board of directors for a three year term. Drs. Darrell Trumpe and Schnepp are delegates to the Illinois State Medical Society, and Drs. Thomas F. Harmon and J. Marvin Salzman, alternate delegates. All are to assume office, Jan. 3, 1957.

Hospital Staff Election.—At the staff meeting of St. John's Hospital, June 26, Drs. Frank M. Davis was elected president; William Bernard, vice president, and A. E. Steer, secretary. The various sections elected the following chairmen: Drs. H. B. Henkel Sr., surgery; Emmet F. Pearson, medicine; E. Harold Ennis, obstetrics, J. Keller Mack, pediatrics; John L. Schilsky, general practice; William DeHollander, X-ray, and David O. Holman, pathology.

VERMILION

Society News.—Dr. Edward L. Quinn, physician in charge, division of infectious diseases, Henry Ford Hospital, Detroit, addressed the Vermilion County Medical Society at the Hotel Wolford, Danville, September 4, on "Advances in Virus Diseases."

Personal.—Dr. Vern Alder, Danville, has been accepted as a member of the Vermilion County Medical Society.

GENERAL

Fifty Years of Service.—The Tuberculosis Institute of Chicago and Cook County has incorporated its 1955-1956 report in an attractive booklet titled "Fifty Years of Service." The brochure develops with text and illustration the history of the institute.

Sorry, Dr. O'Neil.—In the caption identifying the physicians in the Fifty Year Club luncheon photograph, August Illinois Medical Journal, the name Frank O'Neill should have read John P. O'Neil, a former Vice President of the Illinois State Medical Society.

New Administrative Head for Hospital Group.—Dr. Madison B. Brown, executive vice president and medical director of Hahnemann Medical College and Hospital, Philadelphia, has been appointed director of administrative services for the American Hospital Association, Chicago, according to the Chicago Tribune.

Lectures Arranged Through the Educational Committee of the **Illinois State Medical Society:**

Lawrence Breslow, clincial assistant professor of pediatrics, University of Illinois College of Medicine, Nettelhorst School PTA in Chicago, September 17, on Psychosomatic Illness of Grade School Children.

Joseph N. Rappaport, member of the pediatric staff of Evanston Hospital, Section 21 of the Illinois Vocational Homemaking Teachers in Elgin, September 22, on Understanding the Adolescent.

Walter Oblinger, Springfield, Associate Counsel, Illinois State Medical Society, Annual Joint Meeting of Physicians, Dentists and Druggists of Will-Grundy County in Joliet, September 26, on The Doctor's Legislative Footsteps: Here and in Washington.

Sol Altschul, assistant professor of psychiatry, University of Illinois College of Medicine, Woman's Auxiliary to the South Chicago Branch of the Chicago Medical Society, October 1, on Mental Health.

Harry E. Rice, Jr., Aurora, member of the staffs of St. Charles, Copley Memorial and St. Joseph Mercy Hospitals, Woman's Auxiliary to the Will-Grundy County Medical Society in Joliet, October 9, on Advances in Medicine.

Robert E. Lee, associate clinical professor of medicine, Stritch School of Medicine of Loyola University, John C. Burroughs PTA, October 9, on Our Children's Health.

John B. Hall, Director, Cook County Department of Public Health, Sixth District of the Illinois Federation of Women's Clubs, October 10, on Poliomyelitis Vaccine.

Armin H. Wolff, Superintendent of the East Moline State Hospital, Henry County Home Economics Association in Orion, October 24, on Mental Health.

Irving H. Rosenthal, member of the pediatric staff at Mount Sinai Hospital, Sisterhood of Congregation B'nai Sholom of Garfield Park, October 24, on Emotional Needs of the Child.

Paul K. Anthony, clinical associate in pediatrics, Stritch School of Medicine of Loyola University, Paul Revere PTA, November 14, on Social Sex Attitudes in Adolescence.

H. Paul Carstens, clinical associate attending physician at Cook County Hospital, Lombard Nurses Club, November 16, in Lombard, on Heart Disease.

Lectures Arranged Through the Scientific Service Committee of the **Illinois State Medical Society:**

Karl D. Venters, chief of medicine at St. Mary's Hospital in Centralia, Williamson County Medical Society in Herrin, September 4, on Diagnosis and Treatment of Acute Pancreatitis.

Louise Tavs, clinical assistant professor of dermatology, University of Illinois College of Medicine, La Salle County Medical Society in Ottawa, September 20, on Dermatologic Lesions of Interest to the General Practitioner.

William H. Requarth, Decatur, assistant professor in surgery, University of Illinois College of Medicine, Knox County Medical Society in Galesburg, September 20, on Hand Injuries.

John A. Mart, associate in medicine, Northwestern University Medical School, Lee and Whiteside County Medical Societies, in Dixon, September 20, on Practical Aspects of Coronary Disease.

George L. Drennan, member of the pediatric staffs of Passavant and Our Saviour's Hospital's Jacksonville, Macoupin and Montgomery County Medical Societies in Carlinville, September 25, on Office Pediatrics.

Marvin A. Rosner, assistant attending obstetrician, University of Illinois College of Medicine, Rock Island County Medical Society in Moline, October 9, on Obstetrical Problems of Interest to the General Practitioner.

John R. Wolff, clincial assistant professor of obstetrics and gynecology, University of Illinois College of Medicine, Stock Yards Branch to the Chicago Medical Society, October 19, on Anorectal Complications in Pregnancy.

William L. Riker, pediatric surgeon, Children's Memorial Hospital, Chicago, Champaign County Medical Society in Champaign, November 8, on Cardiac Surgery, and DeKalb County Medical Society, in DeKalb, October 23, on Common Surgical Pediatric Procedures.

John M. Coleman, clinical assistant in medicine at Stritch School of Medicine of Loyola University, Effingham County Medical Society in Effingham, November 12, on Kidney Disease.

Harry H. Garner, professor of neuropsychiatry,

Chicago Medical School, Rock Island County Medical Society in Moline, November 13, on Psychiatric Problems in Medicine.

Herman Chor, attending neuropsychiatrist, Wesley Memorial Hospital, Chicago, Henry County Medical Society in Kewanee, November 14, on Psychiatric Correlation of Medical and Religious Approach to the Patient.

James E. Segraves, clinical assistant in bone and joint surgery, Stritch School of Medicine of Loyola University, Lee-Whiteside County Medical Societies in Dixon, November 15, on Treatment of Fractures of the Tibia with Special Reference to Intermedullary Rod Fixation.

Casper M. Epsteen, chairman, department of maxillo-facial and plastic surgery, Michael Reese Hospital, Kankakee County Medical Society in Kankakee, November 20, on Plastic Surgery: Facts and Fancy.

Postgraduate Conference.—On September 20, a Postgraduate Conference was held at the Elks Club, Harrisburg, under the auspices of the **Postgraduate Education Committee** of the **Illinois State Medical Society** in cooperation with the faculty of **Stritch School of Medicine of Loyola University,** and with the **Saline County Medical Society** acting as host. At the afternoon session, Dr. N. A. Thompson, Eldorado, a member of the Postgraduate Education Committee, presided, and Dr. George F. O'Brien professor and chairman of the department of medicine at Stritch, served as moderator.

The afternoon program consisted of three panel presentations on "Evaluation of Treatment of Arthritis"; "Differential Diagnosis of Abdominal Pain" and Peripheral Vascular Disease." Participants were Drs. Peter J. Talso, associate professor and assistant chairman of the department of medicine; Joseph L. Koczur, assistant clinical professor, department of pharmacology and therapeutics; Anthony C. Guzauskas, clinical associate in surgery; John B. Hoesley, clinical associate in medicine; James A. Rooney, clinical associate in surgery, and John H. Isaacs, clinical assistant in obstetrics and gynecology.

At the evening dinner session, Dr. Frank P. Skaggs, Harrisburg, President of the Saline County Medical Society, presided. Speakers were Edward A. Uzemack, Chicago, Director of Public Relations and Assistant Secretary of the Illinois State Medical Society, on "Making P. R. Purr", and Dr. Burtis E. Montgomery, Harrisburg, Councilor of the Ninth District, on "Current Medical Problems."

Wives of the visiting physicians were entertained by the Woman's Auxiliary to the Saline County Medical Society.

DEATHS

Franklin J. Corper*, Glenview, who graduated at Northwestern University Medical School in 1917, died August 25, aged 64. He was a member of the pediatric staff at the Evanston Hospital and a specialist certified by the American Board of Pediatrics.

Earl E. R. Downing*, Chicago, who graduated at Bennett Medical College in 1914, died August 16, aged 73. He was a member of the staff of the Walther Memorial Hospital.

Harold Feldman*, Pekin, who graduated at the State University of Iowa College of Medicine in 1932, was drowned in Carmel, California, May 20, aged 50, while attempting to save a woman swimmer from drowning. He was associated with the Pekin Public Hospital, and the Methodist and St. Francis Hospitals in Peoria.

Frank Carl Fink, Pleasant Plains, who graduated at Washington University School of Medicine, St. Louis, in 1904, died May 29, aged 75, of heart disease.

Saviour R. Foty, Oak Park, who graduated at Jenner Medical College in 1917, died May 9, aged 77, of coronary thrombosis. He was a member of the staff of the West Suburban Hospital.

Willard Judd Johnson, Decatur, who graduated at St. Louis University School of Medicine in 1904, died April 18, aged 81, of duodenal and marginal ulcers with stenosis.

Maurice I. Kaplan*, Chicago, who graduated at Washington University School of Medicine, St. Louis, in 1910, died September 6, aged 68. He was head of the X-Ray Department of Mount Sinai Hospital from 1918 to 1934.

Edgar V. Perkins*, retired, Chicago, who graduated at the University of Illinois College of Medicine in 1913, died August 28, aged 69.

Alfred John Charles Schwartz*. Chicago who graduated at the College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, in 1907, died June 3, aged 76, of carcinoma of the stomach.

William Arthur Steele*, Havana, who graduated at Barnes Medical College, St. Louis, in 1896, died April 13, aged 88, of bronchogenic carcinoma.

William S. Timblin*, Rockford, who graduated at Rush Medical College in 1913, died August 8, aged 67.

Howard Gunther Van Buren*, Hines, who graduated at the University of Illinois College of Medicine in 1950, died April 6, aged 37. He was associated with the Veterans Administration Hospital.

---

*Indicates member of the Illinois State Medical Society.